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Identifying Problems Encountered
When Contracting With the
Naval Facilities Engineering Command

By

Donald E. Whitehurst
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Submitted in Partial Fulfillment
of the Requirements for a
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University of Washington

Abstract

**Identifying Problems Encountered
When Contracting With The
Naval Facilities Engineering Command**

by Donald E. Whitehurst

Chairperson of the
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Department of Civil Engineering

Problems encountered by contractors when contracting with the Naval Facilities Engineering Command were investigated. The purpose of this research was to identify and investigate what contractors perceive to be barriers to achieving the goal of constructing quality facilities for the Navy, on time and for a fair price.

The findings are that contractors are generally satisfied with the quality, ability, and fairness of NAVFAC's personnel, the bidding format, payment policy, and emphasis on safety. Contractors are generally dissatisfied with NAVFAC's timeliness in conforming contract modifications, providing timely directions on field problems, and clarifying bid document ambiguities. Many contractors also believe NAVFAC lacks sufficient knowledge and awareness of the construction business. Smaller contractors tended to be more dissatisfied with NAVFAC contracts than did larger contractors. Contractors also consider NAVFAC's value engineering program to be ineffective and consider the contractor quality control program (CQC-West) to be too costly, too subjective, and overly restrictive.

NAVFAC is encouraged to accept contractors as partners rather than adversaries. NAVFAC should contract with contractors to perform value engineering and constructability reviews during project design. The burdensome CQC-West program should be discontinued and replaced with efforts to select only quality contractors for NAVFAC contracts.

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Identifying Problems Encountered When Contracting With the Naval Facilities Engineering Command

CHAPTER 1 - INTRODUCTION

The Naval Facilities Engineering Command (NAVFAC) is responsible for procuring the shore facilities necessary to support the US Navy fleet. Navy shore facilities are all the piers, wharfs, docks, office buildings, warehouses, hospitals, barracks, and other similar facilities which are essential to support an ocean going Navy. Simply stated, NAVFAC's objective in carrying out this responsibility is to procure quality facilities that meet the Navy's needs, on time, for a fair price. The goal of this research is to identify and investigate some of the barriers to the achievement of this objective. If NAVFAC is to improve their performance, then they must either reduce or eliminate these barriers which hinder and often prevent them from meeting their objective.

Perhaps it is NAVFAC's own regulations, policies, and standard procedures that act as barriers to meeting their objectives. NAVFAC contractors were deemed to be the very best source of information for identifying and finding ways to eliminate these barriers.

The goal of this research is to identify and investigate what NAVFAC contractors perceive to be barriers to constructing quality facilities for the Navy, on time and for a fair price.

CHAPTER 2 - LITERATURE REVIEW

A search was conducted for published literature which identifies problems presented by owners when contracting their construction projects, but none were found. There was however, an unpublished report written by Gary W. Mackey in May 1991 which identified problems encountered by contractors when contracting with NAVFAC. Gary W. Mackey is the construction division director of NAVFAC's Atlantic Division in Norfolk, Virginia.

Mackey surveyed contractors throughout the United States who routinely contract with NAVFAC. Mackey mailed 118 questionnaires and received 59 responses. His survey primarily consisted of questions which asked Contractors to rate their level of satisfaction with 37 specific areas of the NAVFAC construction contract process. A point score was assigned for each question as shown in Table 1.

Table 1.- Points assigned to contractor's response. (Mackey 1991)

Response	Extremely satisfied	Very satisfied	Satisfied	Disappointed	Very Disappointed
Points assigned	5	4	3	2	1

By computing the average point score assigned to each question, Mackey identified 7 areas of the NAVFAC construction contract process with which contractors are least satisfied and 6 areas with which contractors are most satisfied.

Least Satisfied- The two areas with which Mackey found contractors were least satisfied involve negotiating and formalizing contract modifications. Mackey states that NAVFAC needs to develop a better means to administer changes more efficiently. Too often, it takes 4 to 6 months before contractors are paid for change order work. NAVFAC also scored low on the contracting officers decision process. Mackey found that ROICC offices were quick to draw sides on a dispute and that contractors felt they were "fighting" the entire ROICC office. Mackey also found that contractors generally believe NAVFAC's value engineering program has proven to be ineffective for construction contracts unless the value engineering proposals are for "big dollar changes". The final three areas with which contractors were generally dissatisfied were: timely response to field problems, response to contractors' inquiries during bidding, and consistency between ROICC offices in administering contracts.

Most Satisfied - The six areas in which Mackey found contractors were most satisfied were: 1) Time allowed for preparing bids. 2) Safety compliance. 3) Preaward verification of low bidders. 4) Processing invoices. 5) Quality/workmanship of final product, and 6) Preconstruction conference.

A partial summarized copy of Mackey's questions and average scores are included in Appendix A.

CHAPTER 3 - METHODOLOGY

3.1 RESEARCH OBJECTIVE - The objective of this research is to gather information about shortcomings in NAVFAC's contracting procedures, policies, and performance in managing construction contracts.

3.2 DATA SOURCE - There are several sources from which to gather information on the shortcomings of NAVFAC contracting. The best sources however, are most likely the two parties who are directly involved in the details of the contracting process, namely, contractors and Navy contract administrators. Contractors were chosen as the source of information for this research because they were considered to be more capable of expressing criticisms of NAVFAC.

3.3 RESEARCH METHOD - Two methods of gathering data were considered; statistical surveys and personal interviews. A statistical survey may provide excellent data, however it is relatively inflexible and very time consuming. It also requires a great deal of care in writing the survey to ensure the respondents understand the intent of the questions. Personal interviews were chosen as the preferred method for gathering data for this research. The use of personal interviews provide the interviewer a great deal of flexibility. The interviewer can clarify questions as needed or provide additional background information to "set the stage" for other questions. Probably the most valuable attribute of the personal interview method is that it allows the interviewer to actually experience the emotions expressed by the respondents.

3.4 DEVELOPING THE QUESTIONNAIRE - A questionnaire was needed both for an interview agenda and to provide a framework for comparing responses from the several contractors. An initial questionnaire was developed by the author and reviewed by Professor Jim Hinze of the University of Washington. This initial questionnaire was comprised of questions on a wide range of topics. It was a "shotgun" approach aimed at identifying what contractors consider to be problems with NAVFAC contracts. A copy of this initial questionnaire is included in Appendix B. After the first four interviews were completed, a thorough evaluation of the questionnaire content and format was conducted. Many of the question formats were changed and questions on the following topics were deleted: award procedures, construction schedules, safety manual, and dispute resolution. The revised questionnaire was written to focus on the topics on which contractors expressed the most criticism during the first four interviews. The four primary topics covered in the revised questionnaire were:

Contractor Quality Control - These questions explored contractors' opinions of a few of NAVFAC's quality control specification requirements.

Value Engineering Program - These questions were designed to explore contractors' general opinion of NAVFAC's value engineering program.

Award Delays - Contractors were asked what policy they think NAVFAC should establish to be fair to all contractors and the public in the event of another military construction spending moratorium.

Level of Satisfaction - Contractors were asked to rate their level of satisfaction with several of NAVFAC's contracting procedures, policies and performance criteria in managing construction contracts.

A copy of the revised questionnaire is included in Appendix C.

3.5 SELECTING INTERVIEWEES - Because of practical reasons, this survey was limited to contractors who maintain an office in the Puget Sound area of Washington state. Most of the contractors were selected from a bidders list acquired from the NAVFAC contracting office in Silverdale Washington. A Navy Civil Engineer Corps (CEC) officer at the Everett contracting office identified all of the local contractors on the list whom he knew were experienced with NAVFAC contracts. Another CEC officer and also a NAVFAC civilian employee at the NAVFAC contracting office in Silverdale also named several other local contractors whom they knew were experienced with NAVFAC contracts. Finally, some of the contractors interviewed were actually recommended by other contractors. A list of the 31 contractors interviewed is included in Appendix D.

3.6 SCHEDULING INTERVIEWS - First contact with contractors was by telephone. After explaining the goal of this research project, a personal interview was requested. The author would first identify himself as Navy Lieutenant Don Whitehurst and would ask to speak to the project engineer or the project manager who normally manages NAVFAC contracts. (Interestingly, the author often received an especially warm reception once he had identified himself as a Navy Lieutenant. It was not uncommon to be immediately connected to the owner or to the president of the company). After being connected to the correct person, the author would again identify himself as a Navy Lieutenant and would explain that he is a graduate student working on a research project at the University of Washington. The author would explain that the intent of the interviews was to identify what is wrong with NAVFAC contracting and to listen to contractors' opinions of how NAVFAC could improve. The overwhelming majority of contractors were very open and actually eager to express their opinions. A total of 39 contractors were contacted from which 31 interviews were conducted. For various reasons, 4 of the 39 contractors contacted were willing to participate, but were unable to schedule an interview. The remaining 4 contractors who were contacted declined to participate.

3.7 CONDUCTING INTERVIEWS - All interviews were conducted by the author at the contractors' offices. The first interview was conducted on 30 August 1991 and the final one was completed on 11 October 1991. The interviews varied in duration from 20 min. to 3 hours 15 min. and averaged 1 hour 30 min.

It is important to point out that all of the contractors knew that they were being interviewed by an active duty Navy Civil Engineer Corps officer. In order to minimize any effect this may have on the contractors' responses, the author dressed in casual civilian clothes and was very careful not to defend NAVFAC's contracting practices in any way. All contractors were encouraged to be very candid and all were promised that their responses would be kept strictly confidential.

Although a questionnaire was used as an agenda for the interviews, contractors were encouraged to comment on any topic or to relate any of their personal experiences. The order in which questions were asked may have varied somewhat from one interview to the next. Some questions were even skipped if the topic was not applicable to the contractor being interviewed.

3.8 DATA ANALYSIS - Two different methods of data analysis were employed. The contractors' background information and all of the responses to the level of satisfaction questions were entered into a Microsoft excel 3.0 spreadsheet. This information was then compiled and graphically represented using excel's database and chart functions. The responses to the remaining questions were grouped with other similar responses and are presented in tabular format.

CHAPTER 4 - RESULTS

4.0 The results of 31 interviews are presented in this chapter using tabular and graphical formats. Responses to all of the questions asked of the contractors were examined, and all salient comments are included in this report. The results are grouped by the responses to the five questionnaire sections. As discussed in chapter 3, not all of the contractors responded to every question. For example, if a contractor being interviewed had no experience with NAVFAC's CQC-West specification, then the CQC questions were deleted entirely. Although the questionnaire was changed after 4 interviews, many of the responses from the first 4 interviews could be easily interpreted to fit the 2nd questionnaire and are included in these results.

4.1 BACKGROUND INFORMATION - Background information is provided to present a profile of the contractors who participated in this study. Three variables of each contractor's background are presented; the contractor's annual construction volume, the number of years the firm had been in business, and the annual volume performed with the federal government. Figure 1 represents the annual construction volumes of the respondents. Nearly 50% (15 of 31) of the contractors have annual volumes between \$1 million and \$10 million. The average annual volume is \$14.5 million and the median is about \$9 million. Figure 2 represents the number of years the contractors have been in business. Responses varied between 5 and 92 years and averaged about 27 years.

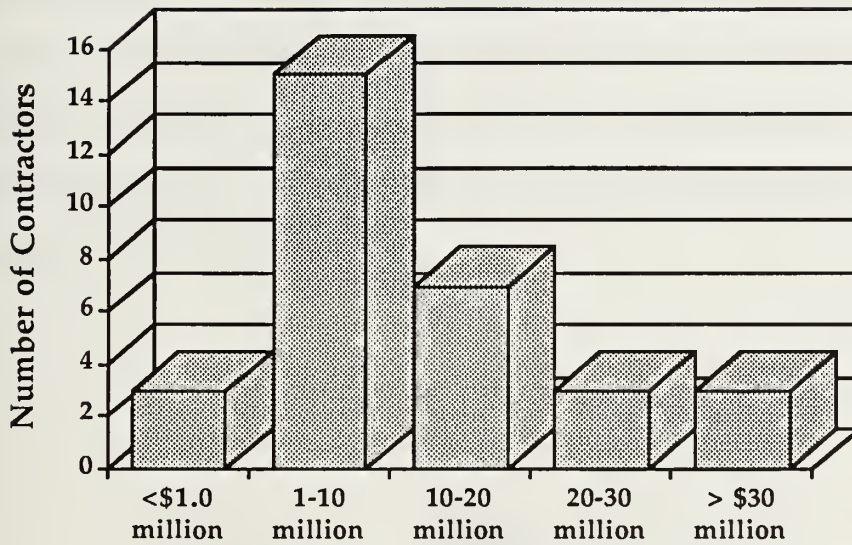


Figure 1.- Annual Construction Volume

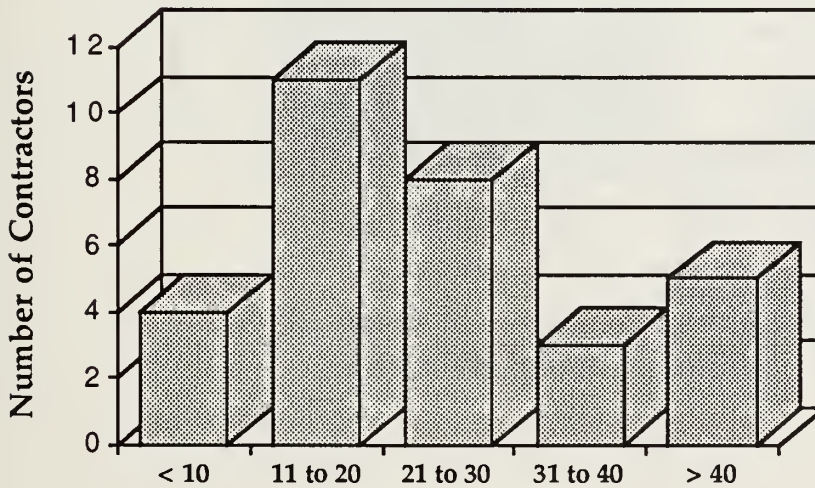


Figure 2.- Number of years in business

Figure 3 represents the annual volume contractors derived on federal construction contracts. These volumes were computed by taking a product of the total annual volume of each firm and the estimated percentage of their annual volume on federal contracts. The total annual federal construction volume represented by the 31 contractors participating in this survey is approximately \$210 million. This amount includes contracts with all federal agencies, not just NAVFAC.

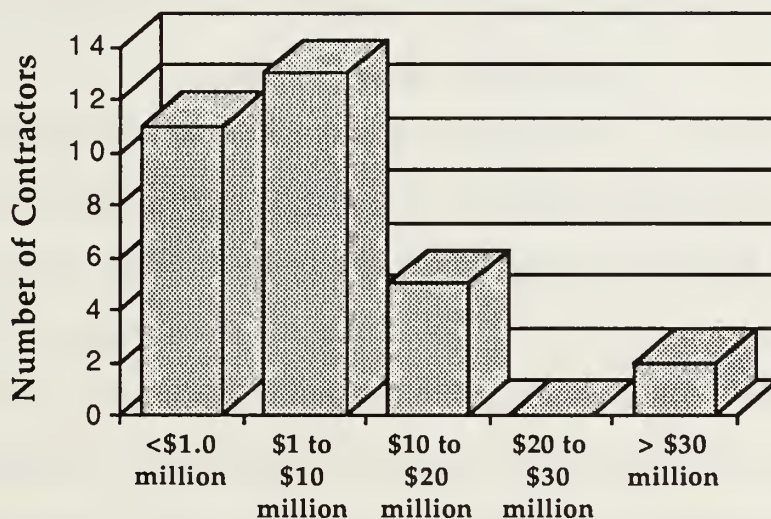


Figure 3.- Annual construction volume on federal contracts

4.2 CONTRACTOR QUALITY CONTROL - For the past several years in the Puget Sound area, NAVFAC has used a contractor quality control specification called CQC-West for all construction type contracts exceeding \$500,000. The CQC-West specification requires the contractor to employ a dedicated, on the job-site organization to perform quality control for all phases of construction work. This job-site organization is required to perform many of the functions traditionally performed by a project owner's organization. Some of these functions are: approving submittals, performing tests and quality inspections, and maintaining quality control records. During the first 4 interviews, contractors were generally very critical of NAVFAC's CQC -West program, thus prompting additional questions in the revised version of the questionnaire.

4.2.1 Quality Control Inspection Responsibility - At the beginning of the questionnaire section on NAVFAC's CQC program, contractors were asked: "In theory, do you support the contracting principal of placing the burden of quality control inspection on the contractor rather than the owner." A quick clarification was given to the question by saying that the question was not intended to solicit the contractor's opinion of NAVFAC's CQC program, but rather to determine if they support the principle of putting the burden of quality control inspection on the contractor. Table 2 shows the contractors responses to this question and shows their typical explanations. Of the 22 respondents, 13 contractors support the principal of the contractor being responsible for quality control inspection. The majority of these respondents believe that the contractor is ultimately responsible for the quality of the final product regardless of how the contract is written. They seemed to be

committed to performing quality work and believe that their internal quality control procedures are more efficient than government inspectors. Six of the 22 respondents believe that there is a conflict of interests when contractors inspect their own work.

Table 2.- Contractors' responses to: "In theory, do you support the contracting principle of putting the burden of quality control inspection on the contractor rather than the owner?"

Responses from 22 contractors	Number of responses
Yes "The contractor is ultimately responsible for the work anyway." "Government inspectors cause an increase in litigation." "It's more efficient than having government inspectors."	13
No "There is an inherent contradiction . . . a conflict of interests." "It's like the fox watching the hen house."	6
It Depends "It depends on the size and complexity of the job."	2
Undecided "I'm still on the fence."	1

4.2.2 Professional Engineers as Inspectors- One of the primary criticisms of the CQC-West specification expressed during the first 4 interviews was that it often required the quality control inspectors to be registered professional engineers. Comments from 19 contractors were collected on this requirement and are presented in Table 3. Some contractors had more than one comment. The results show that the overwhelming majority of contractors are opposed to this restriction. They believe that the talents of several high quality inspectors who do not have a PE license are being wasted. Many believe that

project quality may even be reduced because most professional engineers lack the "field experience" required of a good inspector.

Table 3. - Contractors' responses to the question: "What do you think of the CQC - West requirement for specialized inspection personnel to be registered professional engineers? "

Responses from 19 contractors	Number of responses
Will actually hurt the project quality "Ridiculous...most PE's don't understand the field work anyway" "Bull...engineers don't know how to install it" "Is a good doctor someone who has a stamp but has never operated?" "Will lose quality because PE's aren't inspectors." "PE's don't have hands-on, nuts & bolts experience...they will actually hinder the project."	8
A P.E. license is an unnecessary requirement for QC Inspectors "overkill...they don't have to be engineers" "overkill" "foolish" "P.E. licenses shouldn't be required"	5
Qualified and experienced journeymen should be contractor's quality control inspectors "...you need qualified journeymen to inspect rather than PE's" "Inspectors should be top quality tradesmen." "Experienced tradesmen can do the job."	5
A P.E. license is the wrong criteria by which an inspectors' qualifications should be judged "Qualification for inspectors should depend on person and experience." "The PE registration doesn't mean he is qualified to be an inspector." "...should be an inspector who knows quality control."	3
Conditionally accepts the P.E. license requirement "Under (CQC) program set up, it's the only way... once the submittal is stamped, the PE is on the hook." "It is an expensive step... the Navy goes overboard on requiring a PE stamp...a stamp for formwork design is OK." "Yes, PE registration is an appropriate criteria, but it is wasteful"	3

4.2.3 Full-time Inspection- Another criticism expressed during the first 4 interviews was that CQC-West specification required quality control inspectors to be on-site at all times as work or testing is being performed. One Contractor said that if he even touches a piece of conduit, the Navy wants an electrical engineer inspecting. Summarized in Table 4 are 20 contractors' comments on this requirement. Some contractors had more than one comment.

Table 4.- Contractors' responses to: "What do you think of the CQC-West requirement for specialty inspectors to be on-site at all times work or testing is being performed?"

Responses from 20 contractors	Number of responses
Unnecessary "If you literally read the specifications, a specialty inspector would have to be on-site at all times ... that's ridiculous." "...a waste of time...why do you have a superintendent?" "Ridiculous . . . so stupid"	8
The CQC specification should be written to require proper inspection before work is covered up, not constant. "... should inspect on a reasonable basis before (work is) covered up." "...spot check is the way to go." "...should be written to require inspection before cover up, not all the time."	8
Waste of money "Impractical & expensive" "Costs a fortune" "Very wasteful" "Navy CQC is 10% of the value of the contract, all others (contracting agencies) is 0.5% to 1%"	6
Counter productive "There comes a point where it is counter productive." "Journeymen don't want them (QC inspectors) looking over their shoulders all the time."	2
Forces the contractor to be inefficient "There is not enough work for (a) full time (inspector)." "Foolish...nothing to do...can play bridge half the day."	2

The results show that contractors consider constant on-site inspection to be unnecessary, a waste of money, and may even be counter productive. There were no positive comments from contractors on this requirement. Eight of the 20 contractors recommended the CQC specification be changed to require proper inspection prior to the time when work is "covered up" e.g. underground, behind walls, etc. Perhaps NAVFAC's objective behind this "full time inspection" requirement is to make it easier for Navy contract administrators to enforce quality control requirements. It removes the responsibility from the Navy contract administrators to make a judgement as to whether a quality control inspector is required.

4.2.4 Other comments on CQC-West - As discussed previously, contractors were encouraged to comment on any topic or to elaborate on their responses by describing personal experience. Summarized in Table 5 are a collection of "other comments" from 17 contractors on NAVFAC's CQC-West specification. The clear majority (11 of 17) of the contractors believe that the CQC-West specification is too subjective. They find it difficult to estimate their costs for complying with CQC-West because they are not sure what the government will require of them. One contractor commented that the CQC requirements were just so ridiculous that he could not believe the Navy would make him comply with the specification.

Table 5 - Contractors' "other comments" on NAVFAC's CQC- West specification.

Responses from 17 contractors	Number of responses
<p>The CQC-West specification is too subjective. Requirements need to be defined more clearly. ROICC's need to enforce the requirements equally to keep the "playing field" even.</p> <p>"Equal the playing field"</p> <p>"...needs better definition of what the requirements are."</p> <p>"It's not clear...can be interpreted different ways."</p> <p>"CQC requirements are not enforced equally."</p> <p>"We don't know what the government is actually going to require...it is not clearly defined."</p> <p>"ROICC's are not enforcing requirements equally."</p> <p>"CQC is very subjective, unfair, inadequately defined"</p>	<p>11</p>
<p>The pool of professional engineers available for CQC inspectors are generally low quality</p> <p>"PE inspectors are typically short term, low quality, winos... if they were worth their salt, they would have a permanent job."</p> <p>"Pool is from retired engineers or very incompetent engineers with bad interpersonal skills."</p> <p>"...retired engineers...out of touch with current industry practice, or young green engineers."</p>	<p>4</p>
<p>NAVFAC should either take responsibility for QC inspection or give it to the contractors... They cannot have both.</p>	<p>2</p>
<p>Other Comments:</p> <p>"CQC is so costly that it is cut out on negotiated 8A contracts once the Navy sees how much it costs."</p> <p>"The Navy should bid hard money for construction and then negotiate for the QC plan."</p> <p>"We actually tried to help the Navy rewrite the CQC specification, but we weren't successful... it's easier to sit back and (<i>complain</i>) about it."</p>	<p>1</p> <p>1</p> <p>1</p>

4.3 VALUE ENGINEERING - Value engineering is a term widely used throughout the construction industry. For this report, it is defined as an investigation performed by the contractor as to how the contract requirements can be changed to reduce the contract price without impairing the essential functions or characteristics of the end product. A value engineering change proposal (VECP) is a proposal, submitted by the contractor to whom a contract award has been made, to change the method, material, or equipment specified by the contract resulting in a reduced contract price. NAVFAC provides a 55% share of the savings to the contractor as an incentive for value engineering changes. NAVFAC's formal VECP procedure is described in the Federal Acquisition Regulation (FAR) clause 52.248-3 VALUE ENGINEERING - CONSTRUCTION (Mar 1989). The paragraphs from this FAR clause describing the VECP preparation, submission, and government action are included in Appendix E.

Questions were first asked of contractors to ascertain their familiarity with NAVFAC's VECP procedure. Many contractors had at one time or another submitted a VECP, others decided not to pursue a VECP once they read the FAR clause. Some of the contractors incorrectly believed that value engineering was simply a proposal for a deductive change to the contract without sharing the savings. Responses were not collected from those who were not familiar with NAVFAC's VECP procedure.

Contractors were asked to comment on their overall perception of NAVFAC's value engineering program. Responses were collected from 22 contractors and are presented in Table 6. Only 1 of the 22 contractors expressed a positive comment. The results show that contractors perceive

NAVFAC's value engineering program to be ineffective. It takes too long to receive an approval and it is not worth the risk to wait. Many contractors acknowledged that they would not even consider proposing a value engineering change even though it may save the government thousands of dollars.

Table 6.- Responses to: "Please comment on your experience with NAVFAC's value engineering program."

Responses from 22 contractors	Number of responses
It is too difficult to get a value engineering proposal approved. "It's a joke... not worth the effort" "Navy is too rigid for VE system to work" "unwieldy... a lot of hoops to jump through" "not much chance of getting it approved"	9
The Navy's actions actually discourage contractors from submitting value engineering proposals. "They (Navy) don't want them (VECP's) it's obvious due to the stumbling blocks in the path." "Navy throws every hurdle or barrier in front of contractors." "ROICC's have even told me not to pursue it (VECP) because it takes too long."	7
These contractors do not even consider pursuing a value engineering change "We haven't pursued any (VECP's) in the last 5 years." "I will never value engineer anything for the navy ever again." "We wouldn't even consider it unless it is over \$500,000."	8
It takes too long to get an answer from NAVFAC on a VECP and it is too risky to wait "...it's too long and not worth the time" "If they (NAVFAC) are serious, then they need to make it work quicker." "...we can't wait 45 days on an if." "There's no time to value engineer a job and still finish on time."	5
The system works "OK" "We don't really have 6-8 weeks, but we've generally had a good experience."	1

4.4 AWARD DELAYS - A contractor's bid on a project is an "offer" to the project owner to complete the job in accordance with the plans and specifications. As described in the Instructions to Bidders on every project, NAVFAC requires the contractor to provide a specified minimum number of days in order to "accept" the contractor's bid. This period of time is typically 60 calendar days long and is termed the bid acceptance period. NAVFAC also requires contractors to guarantee their bid price with a bid bond normally in the amount of 20% of the bid price.

For much of 1989 and 1990, the Secretary of Defense ordered a moratorium on military construction spending. This moratorium effectively halted the award of all military construction projects which were over \$200,000. In spite of the moratorium, NAVFAC continued to advertise projects and publicly open bids. Because of the moratorium, however, they had no authority to award any contracts. When the bid acceptance periods would expire, NAVFAC would routinely ask contractors to extend the bid acceptance period for 30 to 60 days at a time and would require contractors to obtain consent from their surety (bonding company). Those contractors who declined to extend their bid were not eligible for award once NAVFAC received authority to award.

Contractors expressed more anger and frustration on NAVFAC's actions during this moratorium period than on any other topic covered in this research. Some of the comments were:

"...one of the (expletive deleted) things I've ever seen done to anyone."

"(expletive deleted) Navy kept bidding but the Army didn't"

"..crock of (expletive deleted)...there are a lot of (*upset*) contractors"

These were not responses to any questions, but rather comments made as soon as the topic of "award delays" was first mentioned by the interviewer.

Contractors explained several effects that award delays have on the contracting business. Primarily it limits the amount of other work the contractors' bonding companies allow them to bid on. When contractors extend their bid price as NAVFAC asked them to do, the entire amount of their bid is counted against their bonding capacity. This is particularly hard on smaller contractors with small bonding capacities. Contractors also explained that material prices can fluctuate dramatically over a few months and that subcontractors will often guarantee their bids for only 30 days.

After discussing the problems caused by award delays, contractors were asked how they think NAVFAC should have acted during the moratorium. Contractors unanimously agree that a contracting agency should not advertise and bid a project if they do not intend to (or have authority to) award a contract. At any rate, contractors were asked to respond to the following question: "If bids have already been publicly opened on a project but there is not authority to award a contract, what should NAVFAC do to be fair to both contractors and the taxpayers?" Several possible choices were presented to the contractors by the interviewer and then they were asked to choose one or to suggest another. Presented in Table 7 are the contractors' responses. The results show that most (20 of 30) of the contractors believe that after the original bid acceptance period expires, the contractors should not be required to obtain consent of surety to remain eligible for contract award. This would allow contractors to bid on other jobs without their bonding capacity being restricted by the NAVFAC job "on hold".

Table 7.- Contractors' responses to: "If you were the person responsible for establishing a policy for handling award delays such as occurred during the military construction spending moratorium, what policy would you establish?"

Responses from 30 contractors	Number of responses
<p>NAVFAC should require contractors to keep an active bid bond in order to be considered for award. When award is authorized, NAVFAC should accept the offer from the lowest remaining bidder for:</p> <ul style="list-style-type: none"> -Original bid price -Escalated price based on fixed % -Negotiate a price increase with low bidder. 	<p>8</p> <p>(2) (4) (2)</p>
<p>Contractors should be allowed to let their bid bonds expire and still remain eligible for contract award. When award is finally authorized, NAVFAC should accept the offer from the lowest bidder who still wants the contract for:</p> <ul style="list-style-type: none"> -Original bid price -Escalated price based on fixed % -Negotiate a price increase with low bidder. 	<p>20</p> <p>(2) (12) (6)</p>
<p>NAVFAC should cancel the solicitation and then completely re-bid the job when an award is authorized.</p> <ul style="list-style-type: none"> -Design should be changed -No change in design 	<p>2</p> <p>(1) (1)</p>

When NAVFAC is authorized to award the contract, these contractors believe that the original low bidder should be allowed to accept or to decline the contract as they choose. If the low bidder declines, then the second low bidder should be allowed to accept or to decline and so on until one contractor agrees to enter into a contract. These contractors generally believe that NAVFAC has an ethical responsibility to award the contract to the original low bidder.

"The low bidder should have the right to the job and should be made whole."

"If a job is advertised, then the low bidder should ethically get the job."

One contractor recounted the following actual event: This contractor was the low bidder on a \$6 million job to build missile magazines at a base in southern California; the 2nd low bid was for over \$7 million. The low bidder had recently completed a nearly identical job at another military base nearby and he claimed that he knew his costs for the 2nd magazine job "down to the nickel." Before NAVFAC awarded the contract, the military construction spending moratorium was enacted. The contractor agreed to extend his bid price for 6 months, but after that he decided to "drop out of the game" and free up \$6 million of his bonding capacity. After more than 1 year had passed when the moratorium was lifted, this contractor called NAVFAC's contracting office in San Bruno, California. He called to find out when NAVFAC was going to solicit for new bids on the missile magazine job only to find out that it was just awarded to the former 2nd low bidder for over \$7 million. NAVFAC's actions become even more ludicrous when additional facts are revealed. The original low bidder received a letter of commendation

from NAVFAC for their performance on the 1st magazine job. NAVFAC then awarded the 2nd magazine contract to a troublesome contractor with whom they were fighting several claims and spent an extra \$1 million in doing so.

Another issue to consider in establishing a fair policy is how to fairly handle the cost increases during the delay. More than half (16 of 30) of the contractors believe that NAVFAC should escalate the bid prices based on some fixed percentage in order to cover cost increases during the award delay. Most believe that this would be fair to all contractors and would avoid the arguments and protests that would likely occur if NAVFAC were to negotiate a price increase with the low bidder. Although not shown in Table 7, but 4 of the 30 contractors who responded to this question believe that if NAVFAC cancels a job, then the low bidder should be reimbursed \$2,000 to \$3,000 to cover the costs of preparing a bid. One contractor summarized his opinion by saying:

"If you call a cab and make him wait, the driver is going to run his meter while waiting...that's reasonable."

4.5 CONTRACTOR'S LEVEL OF SATISFACTION - In the construction industry, contractors are exposed to several different "owners". The "owner" is a term used for the person or organization for whom the project is being constructed. Boeing and Weyerhaeuser are two examples of large private owners from the Puget Sound area. Public owners include the Naval Facilities Engineering Command (NAVFAC), the Army Corps of Engineers (Army), the Port of Seattle, Metro, Washington State Department of Transportation (WSDOT), and numerous other cities, counties, federal and state agencies. Rarely would a contractor have experience with only one owner. More likely, contractors have worked for several of the contracting agencies mentioned above. Each owner has its own way of conducting business. Each owner may offer differences in everything from the quality of its people to such things as bidding format (e.g. lump sum, unit price), payment policy, dispute resolution procedures, safety policies, quality control requirements, required construction schedules, submittal review procedures, and many other contracting related practices.

For this study, contractors were asked to rate their level of satisfaction with NAVFAC on several of these same contracting related practices. A score from 1 to 5 was to be assigned for each query as shown in Table 8.

Table 8.- Points assigned to contractors' response.

Response	Very Satisfied	Satisfied	Neutral	Dissatisfied	Very Dissatisfied
Points assigned	5	4	3	2	1

An average score was computed for two groups of contractors; those who reported annual volumes less than \$9 million (median) and those with annual volumes greater than or equal to \$9 million. These average scores and number of responses are presented in table 9. Presumably, contractors are most satisfied with NAVFAC in the areas that scored highest, and conversely, least satisfied with NAVFAC in the areas that scored lowest. The average scores assigned to each question by the larger and smaller contractors are compared in Figure 4. The results show that the larger contractors are generally more satisfied with NAVFAC's contracting practices than are the smaller contractors. There are 5 areas on which contractors rated NAVFAC high and 5 areas on which contractors rated NAVFAC low.

4.5.1- Most Satisfied- The two highest scoring areas relate to the people at NAVFAC with whom contractors interact. Contractors generally seem to feel that NAVFAC's people are honest and have a positive attitude toward contractors which results in a cooperative relationship (see Figures 5 and 6). The 3rd highest score relates to the bid format used by NAVFAC (Figure 7). Contractors generally seem to prefer NAVFAC's lump sum format over the unit price format which is used more often by the Army. NAVFAC's emphasis on safety was the 4th highest scoring area (Figure 8). One contractor commented that safety is over emphasized by NAVFAC and another said NAVFAC does not emphasize safety enough. The clear majority (15 of 23) however, are satisfied with NAVFAC's safety program. The 5th highest scoring area relates to progress payments (see Figure 9). Most (17 of 20) contractors feel that NAVFAC pays an amount which represents the work which is completed without too much retention .

Table 9.- Summary of responses to "Level of Satisfaction" questions

Question	Size of Firm	Number of responses	Ave. score
1. Quality and completeness of plans and specifications	Small Large	12 12	3.17 3.67
2. Response to contractor's questions prior to bid opening.	Small Large	9 11	2.33 2.91
3. Bidding format (i.e. lump sum, unit price, alternates)	Small Large	12 12	4.17 4.25
4. The navy's review and response to your construction schedule.	Small Large	12 11	3.58 4.00
5. The navy's review and response to your schedule of prices.	Small Large	10 11	3.50 3.91
6. Timeliness in review of your submittals.	Small Large	12 12	3.17 3.42
7. Timeliness in responding to urgent requests for information (RFI's).	Small Large	12 12	3.00 4.00
8. Amount allowed for progress payments.	Small Large	11 9	4.00 4.11
9. Timeliness in settling contract modifications (change orders) and giving the contractor a notice to proceed.	Small Large	12 12	2.42 3.33
10. Fair and reasonableness in interpreting contract ambiguities.	Small Large	12 11	3.50 3.82
11. Amount allowed for OH and profit rates on contract modifications (change orders).	Small Large	11 11	2.27 3.55
12. Acceptance of contractor's work for final inspection.	Small Large	11 12	3.82 3.83
13. Attitude towards and cooperation with contractors.	Small Large	10 11	4.10 4.36
14. Sense of urgency.	Small Large	12 12	2.75 3.83
15. Use of common sense.	Small Large	12 12	3.00 3.67
16. Knowledge of the construction business	Small Large	11 12	2.73 3.25
17. Ability to make a timely decision	Small Large	12 12	2.75 3.25
18. Emphasis on safety	Small Large	11 12	4.00 4.25
19. Honesty	Small Large	12 12	3.92 4.58
20. Consistency between ROICC offices or ROICC personnel within the same office.	Small Large	11 11	3.00 3.73
21. Contract close-out	Small Large	11 11	3.82 3.82

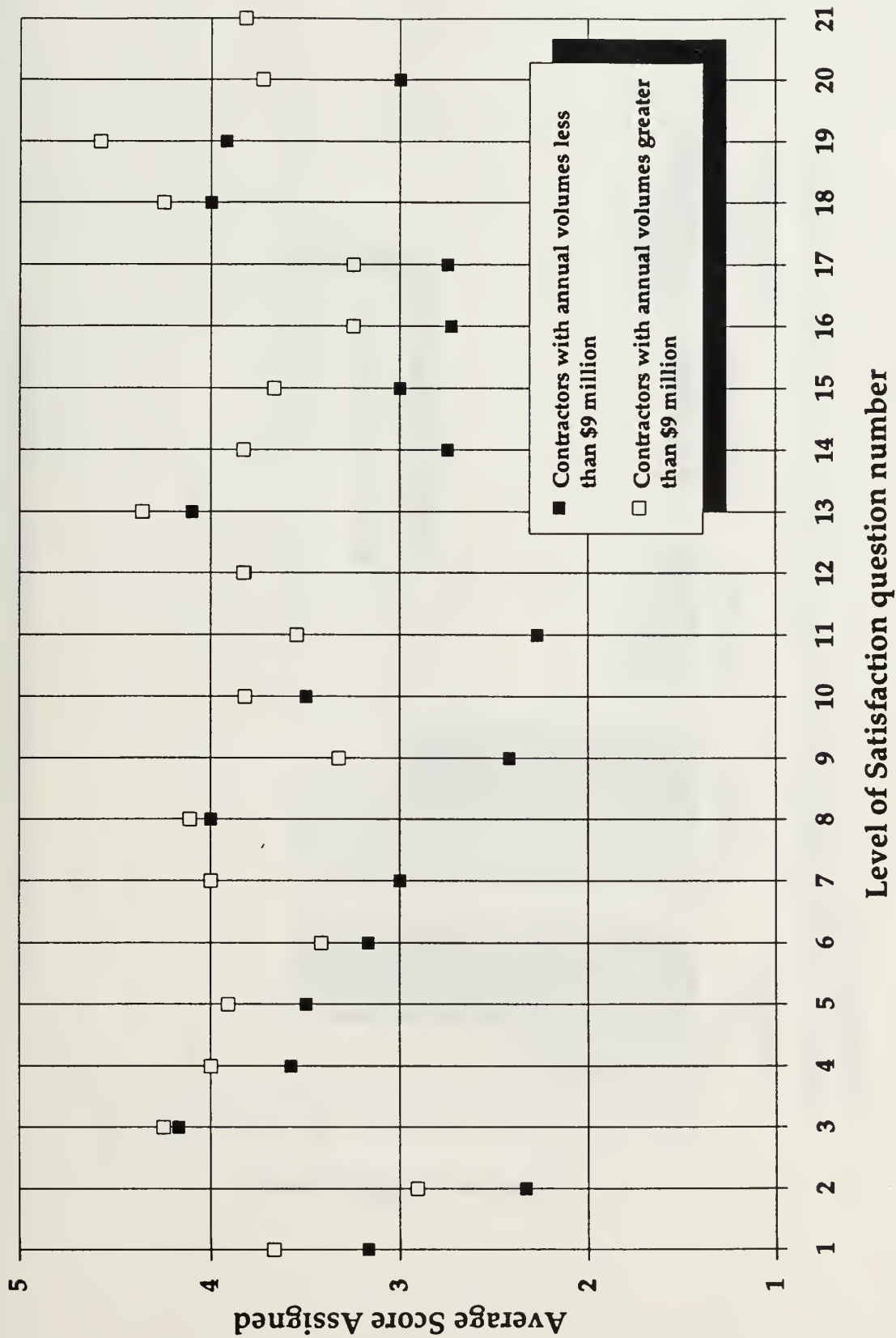


Figure 4.- Comparison of average scores assigned by size of contractor firm.

Ave Scores = 3.92(small) 4.58(large) HIGHEST

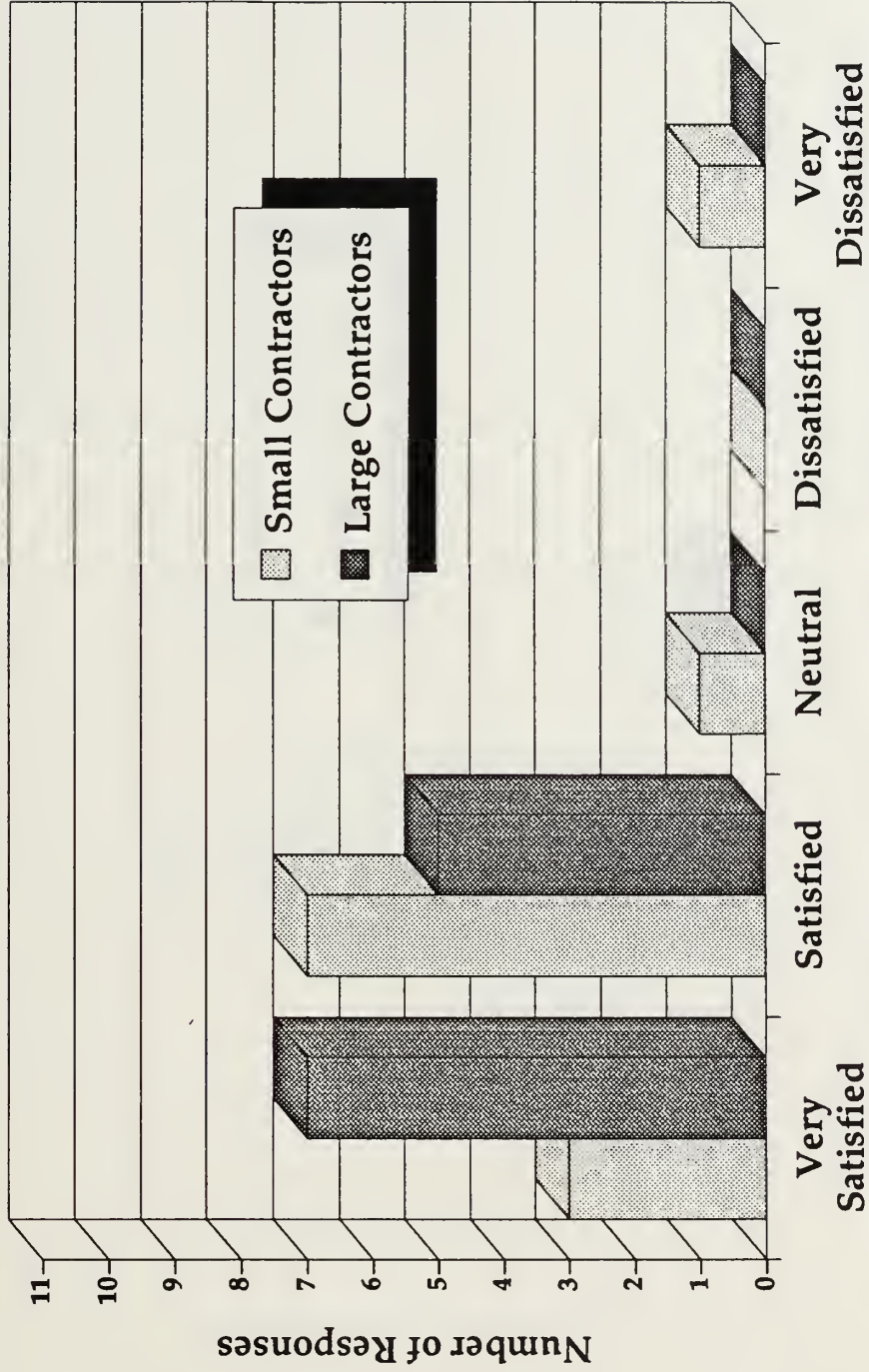


Figure 5.- How satisfied are you with NAVFAC personnels' honesty?
(question #19)

Ave Scores = 4.10(small) 4.36(large) 2nd HIGHEST

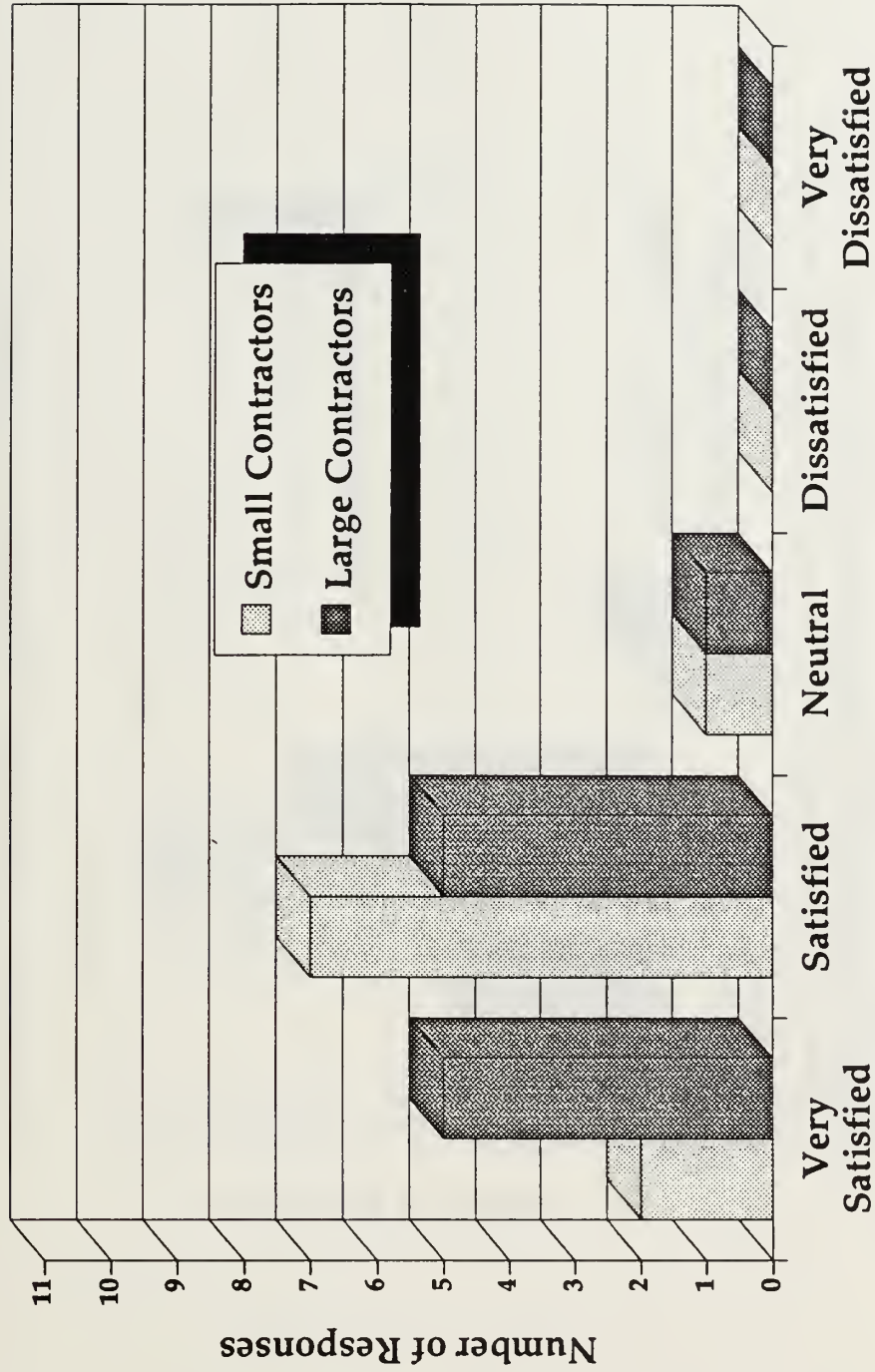


Figure 6.- How satisfied are you with NAVFAC's attitude towards and cooperation with contractors? (question #13)

Ave Scores = 4.17(small) 4.25(large) 3rd HIGHEST

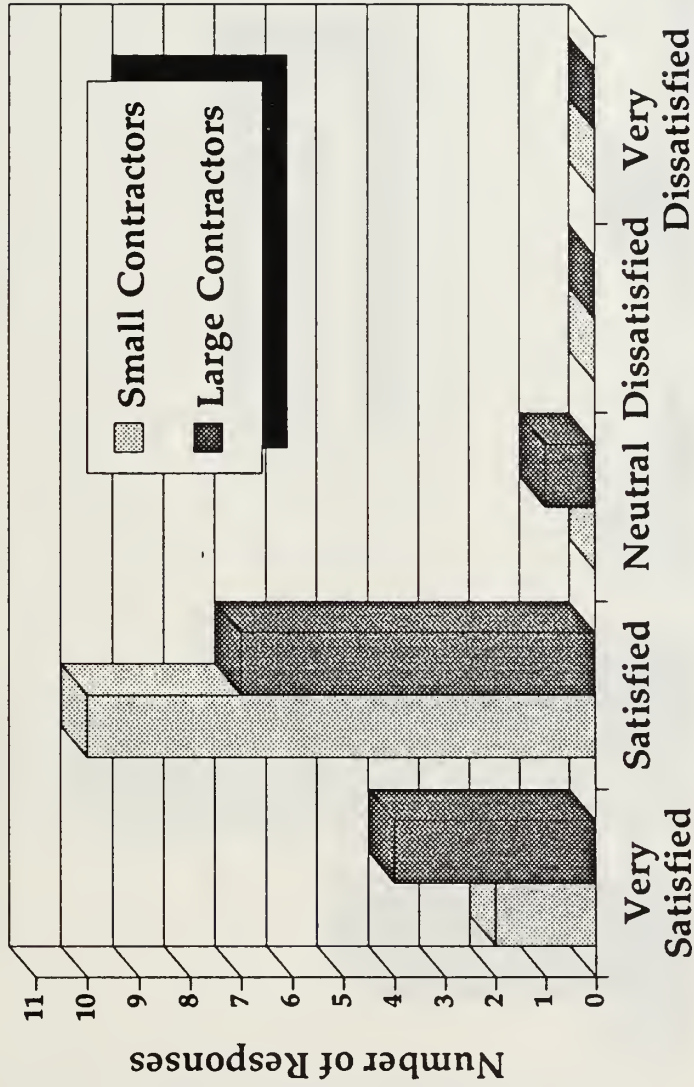


Figure 7.- How satisfied are you with NAVFAC's normal bidding format? (e.g. lump sum, unit price, use of alternates) (question #3)

Ave Scores = 4.00(small) 4.25(large) 4th HIGHEST

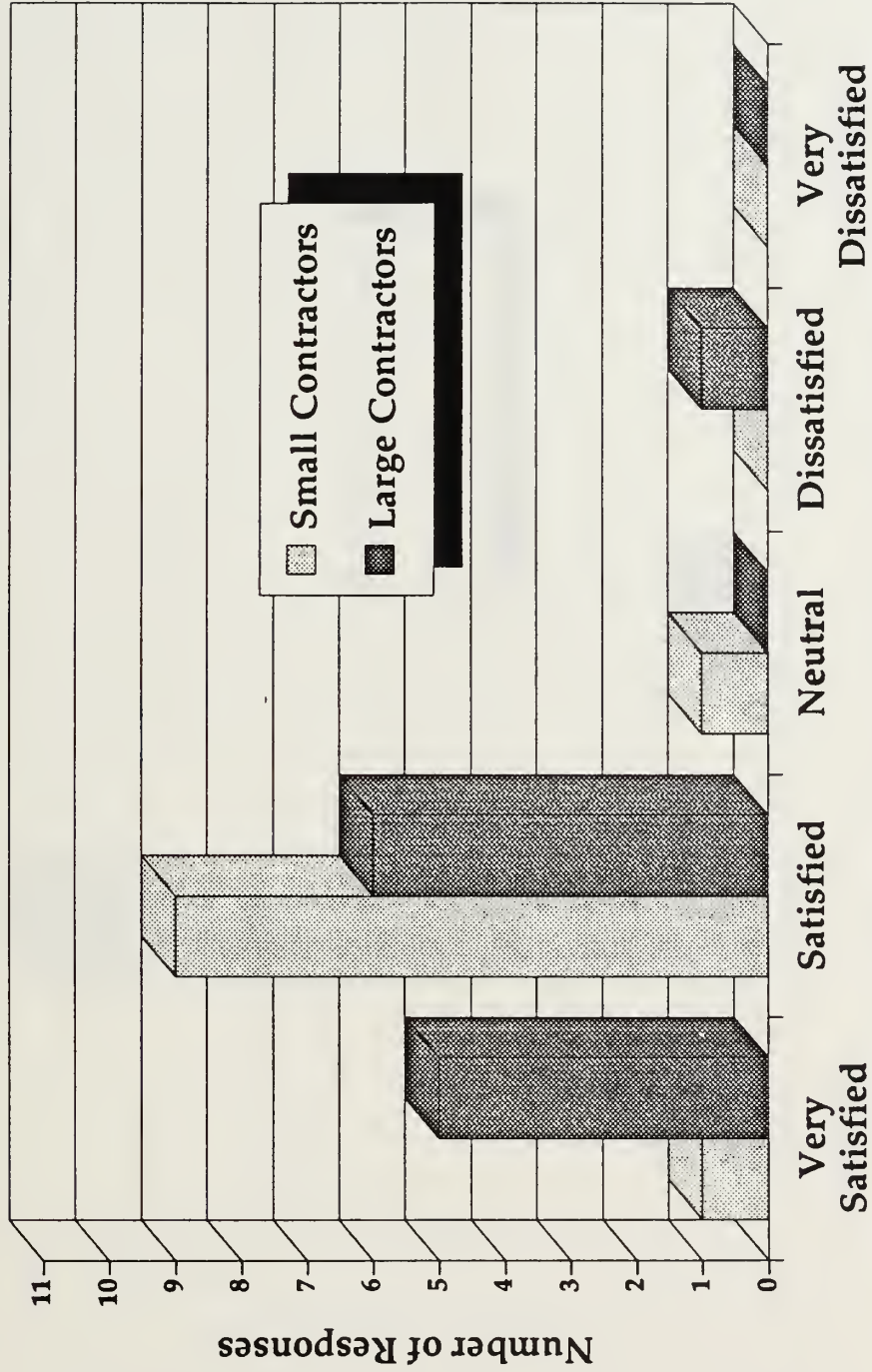


Figure 8.- How satisfied are you with NAVFAC's emphasis on safety?
(question #18)

Ave Scores = 4.00(small) 4.11(large) 5th HIGHEST

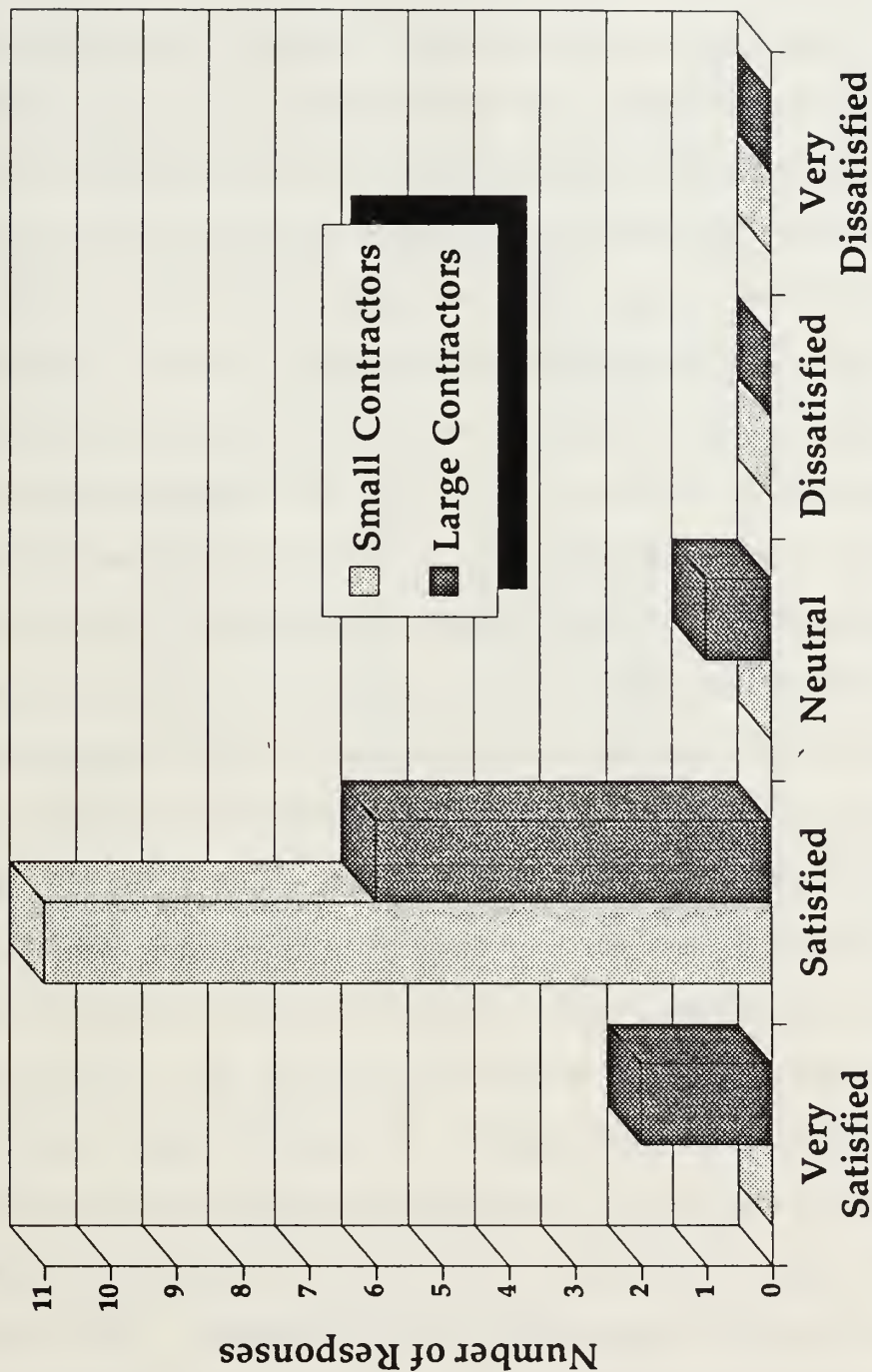


Figure 9.- How satisfied are you with the amount NA VFAC allows for progress payments? (question #8)

4.5.2 Least Satisfied - The question on which NAVFAC scored lowest is their response to contractors questions during bidding (Figure 10). Most contractors feel that NAVFAC should clarify ambiguities in the contract documents prior to bid opening rather than saying: “We don’t have time to put out an amendment, just bid it as you see it.” The 2nd lowest scoring area is a result of the bureaucratic regulations that NAVFAC must follow (Figure 11). Time is money for contractors. The slower NAVFAC is at giving contractors a notice to proceed on contract modifications, the more dissatisfied contractors will be. Interestingly, the smaller contractors were much more dissatisfied than were larger contractors on this question. The 3rd lowest combined score is the amount NAVFAC allows for overhead and profit on contract modifications. There is, however, a substantial difference between the average score assigned by the larger and smaller contractors. Smaller contractors seem to be much more dissatisfied with the overhead and profit rates than are the larger contractors (see Figure 12). The 4th lowest score is NAVFAC’s ability to make a timely decision (Figure 13). Contractors generally feel that NAVFAC’s people in the field do not have enough authority to make a decision. Contractors say “...they always have to talk to someone else.” Also tied for 4th lowest is NAVFAC’s knowledge of the construction business (Figure 14). Perhaps NAVFAC’s actions during the military construction spending moratorium brought this score down. One contractor commented: “The Navy takes a lot of action that is insensitive to the real world.” Another said: “The Navy needs to be more aware of the construction business, bonding issues, and subcontractor problems.

Ave Scores = 2.33(small) 2.91(large) LOWEST

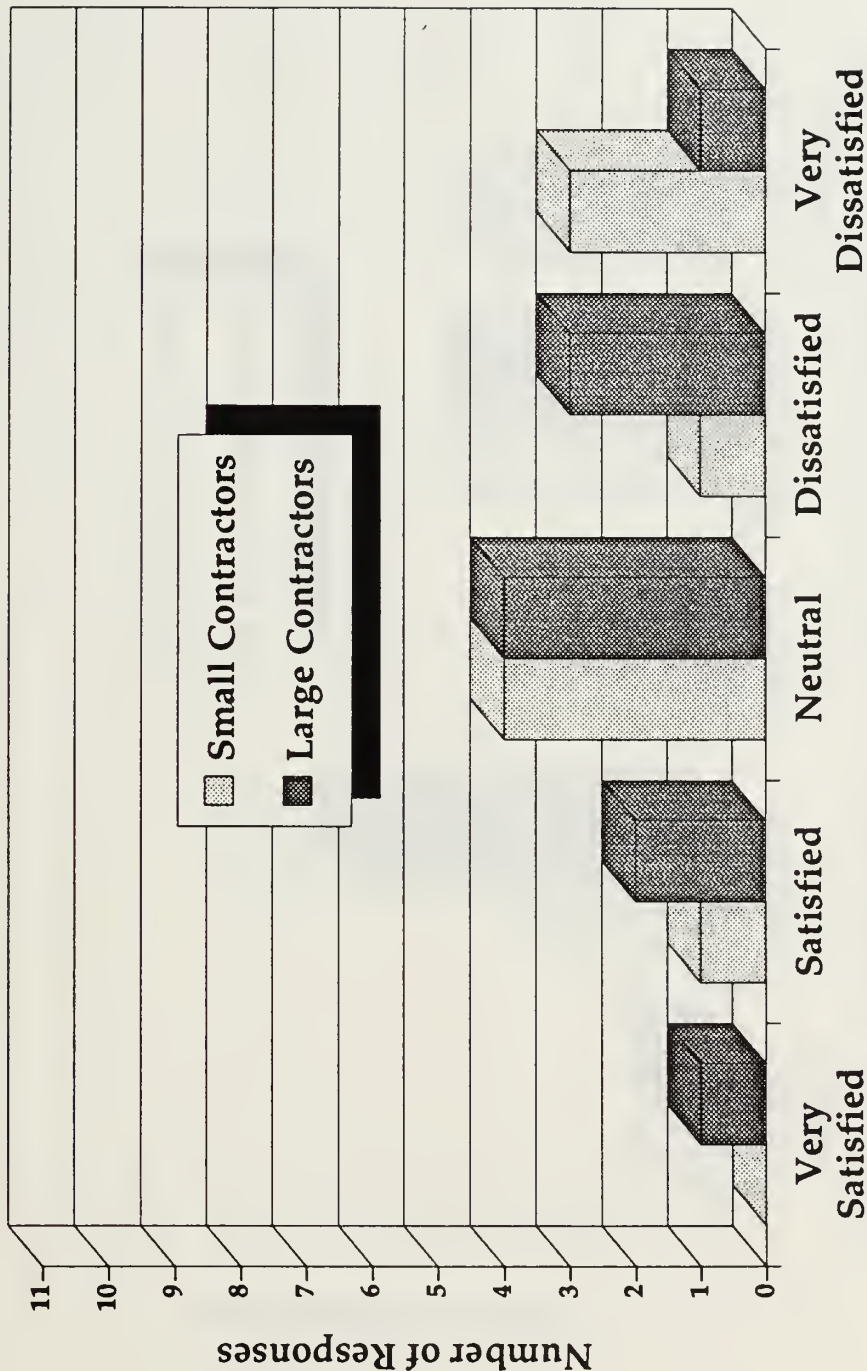


Figure 10.- How satisfied are you with NAVFAC's response to your questions prior to bid opening? (question #2)

Ave Scores = 2.42(small) 3.33(large) 2nd LOWEST

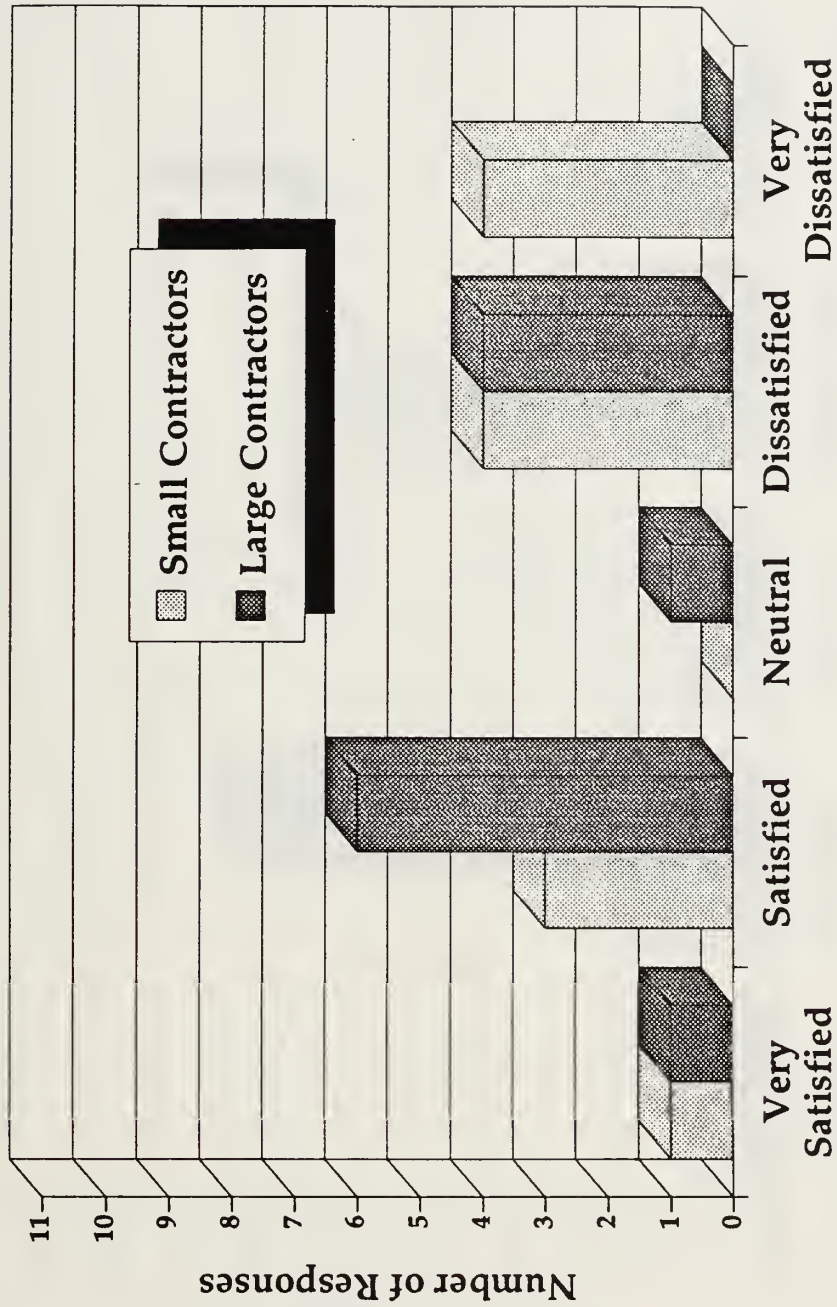


Figure 11.- How satisfied are you with NAVFAC's timeliness in settling contract modifications and giving the contractor a notice to proceed? (question #9)

Ave Scores = 2.27(small) 3.55(large) 3rd LOWEST

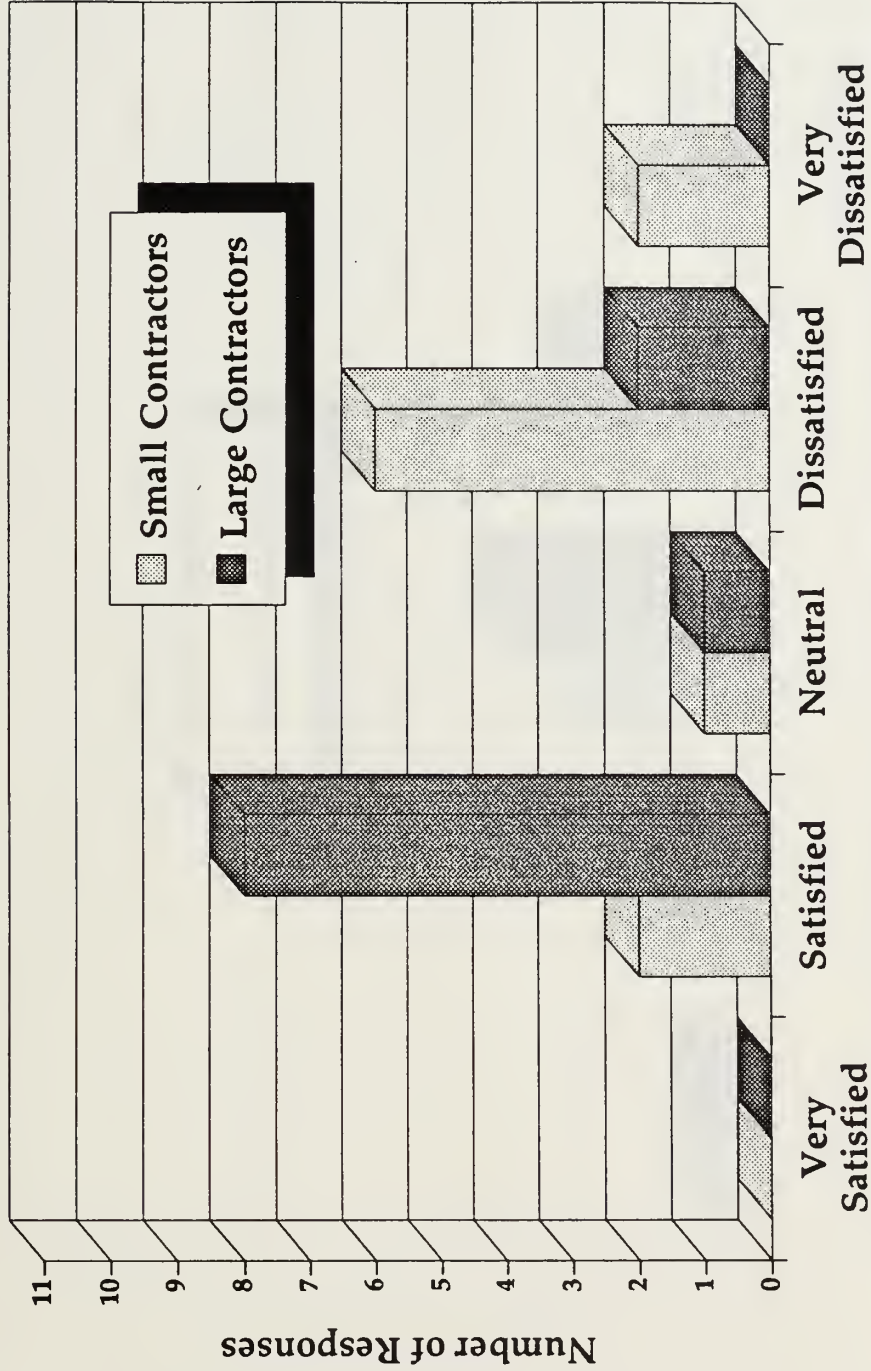


Figure 12.- How satisfied are you with the amount NAVFAC allows for overhead and profit rates on contract modifications? (question #11)

Ave Scores = 2.75(small) 3.25(large) 4th tied LOWEST

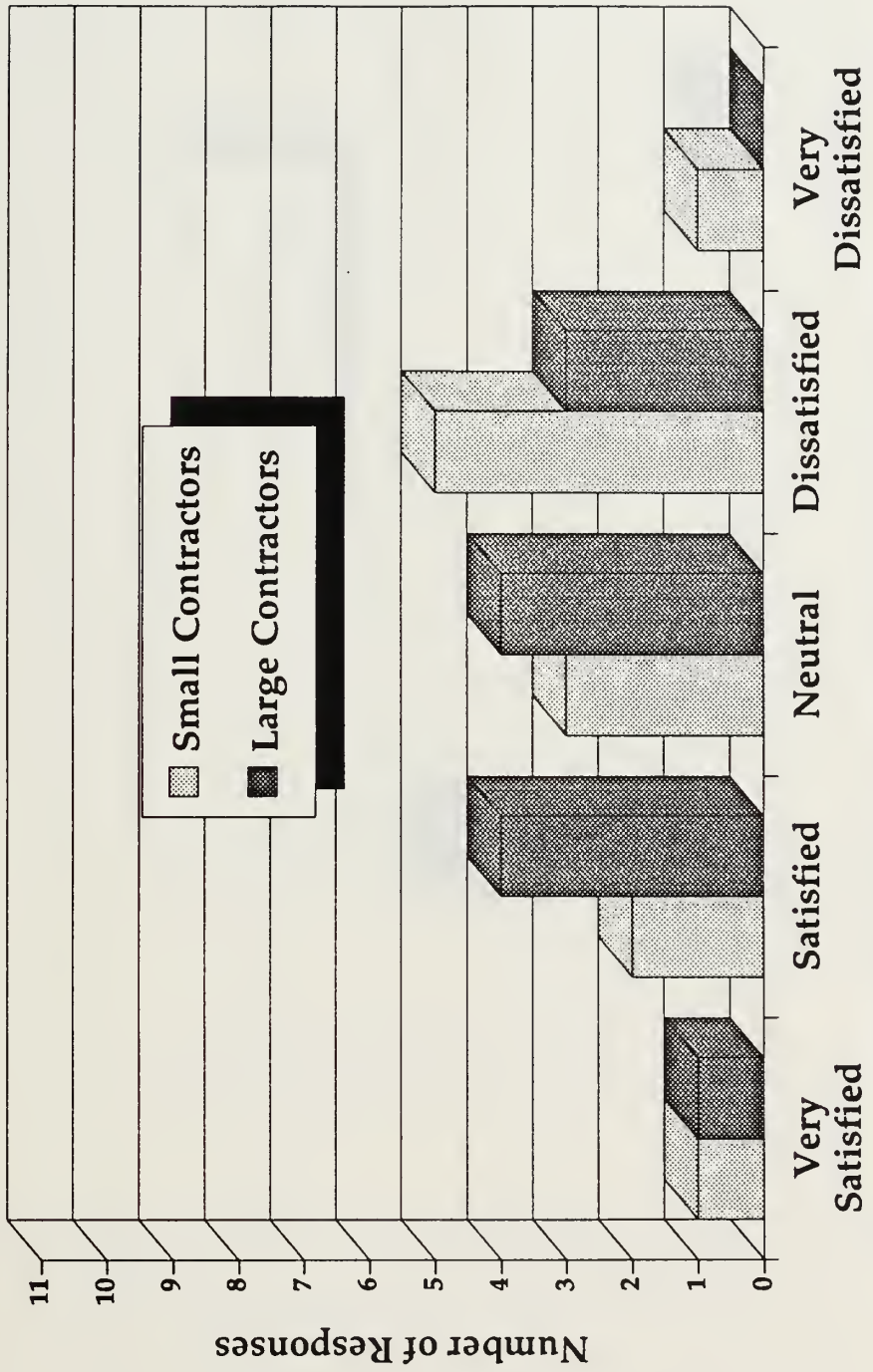


Figure 13.- How satisfied are you with NAVFAC personnels' ability to make a timely decision? (question #17)

Ave Scores = 2.73(small) 3.25(large) 4th tied LOWEST

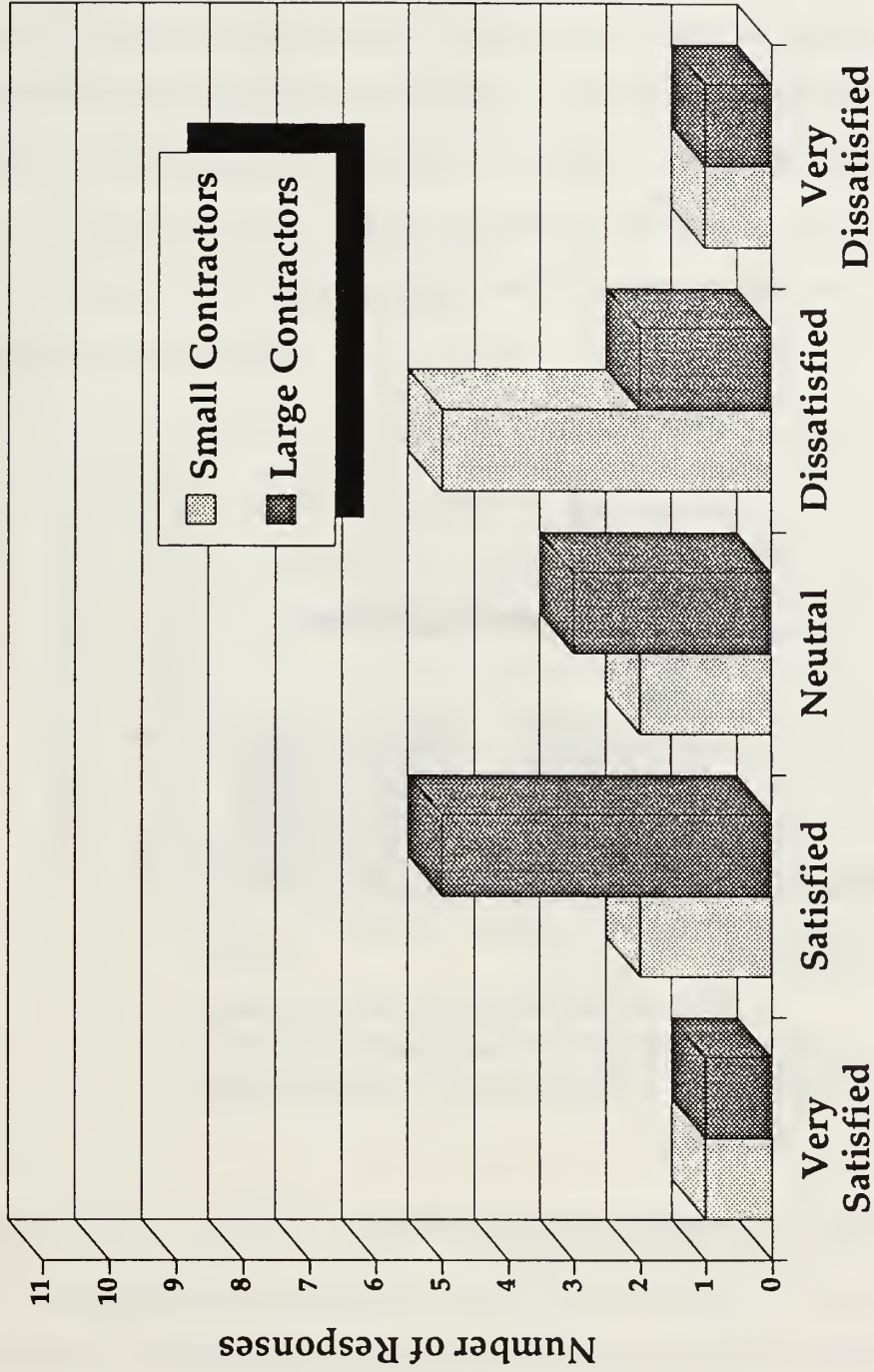


Figure 14.- How satisfied are you with NAVFAC's knowledge of the construction business? (question #16)

4.5.3 Other Observations - It is important to mention two other areas on which there is a considerable difference between the average scores assigned by the larger and smaller contractors. Larger contractors seemed to be satisfied with NAVFAC's timeliness in responding to urgent requests for information, while smaller contractors tended to be dissatisfied (see Figure 15). On a related topic, larger contractors tended to be satisfied with NAVFAC's sense of urgency, while smaller contractors were more often dissatisfied (see Figure 16).

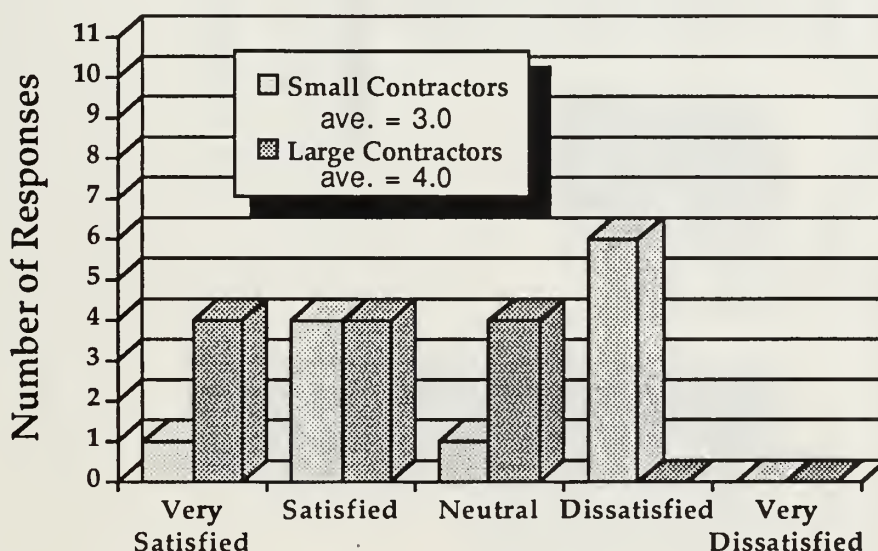


Figure 15.- How satisfied are you with NAVFAC's timeliness in responding to your urgent requests for information? (question #7)

4.5.4 Other Analyses - The average scores assigned by each contractor to the 21 level of satisfaction questions were also examined for trends relating to other variables. Average scores assigned were compared to both the number of years the firm had been in business and to the % volume derived on federal contracts. No meaningful trends were found.

Ave Scores = 2.75(small) 3.83 (large)

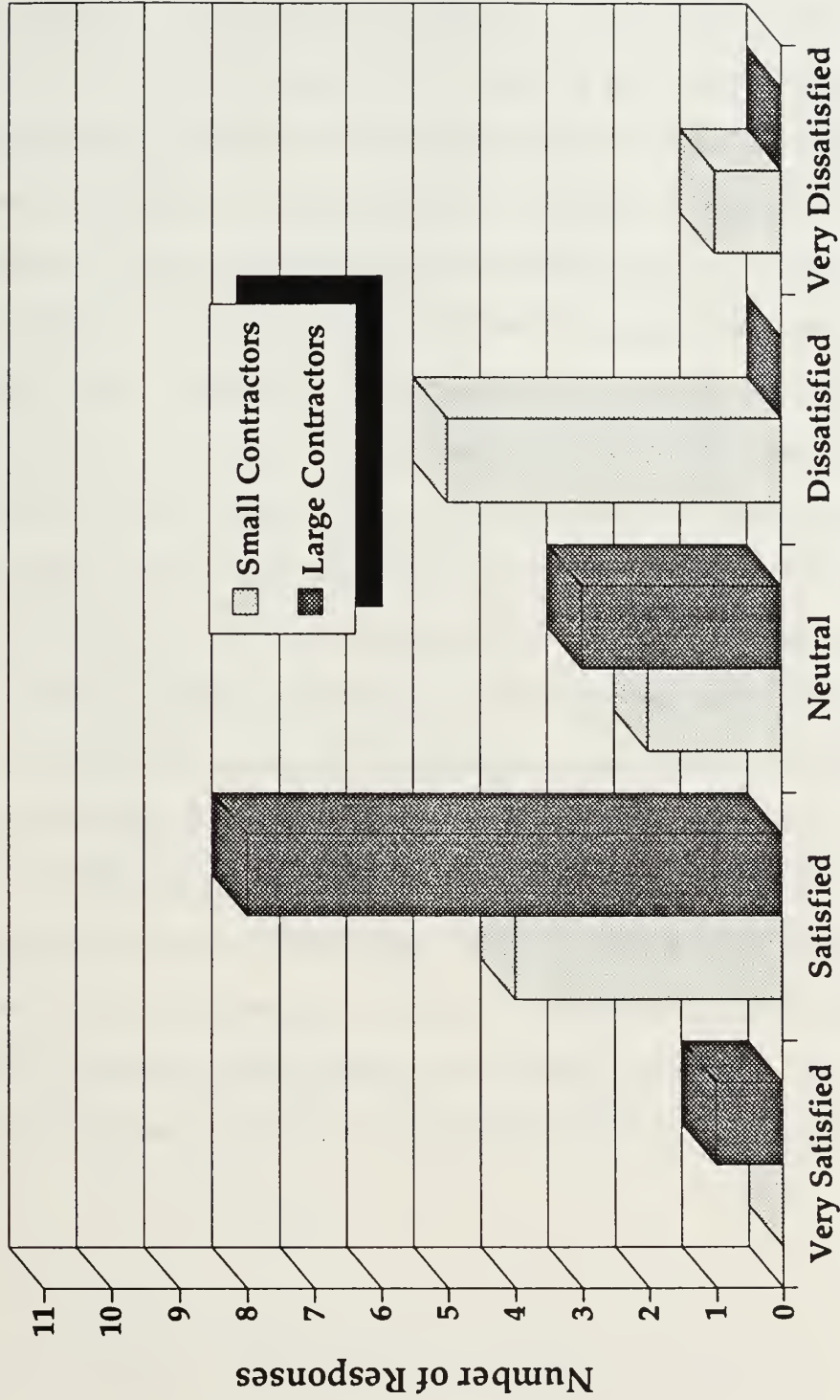


Figure 16.- How satisfied are you with NAVFAC's sense of urgency? (question #14)

4.6 FINAL QUESTIONS- At the conclusion of each interview, contractors were asked three questions to summarize their opinions of NAVFAC. Contractors' responses to "What is your biggest complaint about contracting with NAVFAC?" are summarized in Table 10. There is no one response in particular that stands out, but the highest number of responses (4) were on NAVFAC's contractor quality control program. Award delays, low quality contract documents, and timeliness in processing everything each received three responses. Summarized in Table 11 are contractor compliments of NAVFAC. The clear majority of the compliments went towards NAVFAC's people. They were described with terms such as honest, quality, able, and experienced. The second most complimented aspect of NAVFAC was a fast and fair payment policy. Finally, contractors were asked if they knew of anything innovative or creative that NAVFAC should do to improve how they contract for construction. More than one response was accepted including those that were not necessarily innovative or creative. As shown in Table 12, the majority of the responses related to contract management functions. The single most suggested improvement was for NAVFAC to try "partnering". Five other responses involved an alternative method to the low bidder system for awarding contracts. Four responses involved giving more authority to the ROICC office at the job site.

Table 10.- Responses to: "What is your biggest complaint about contracting with NAVFAC?"

Responses from 27 contractors	Number of responses
Contractor Quality Control program	4
Award Procedures	
-Award delays - extending contractors' bids	3
-Should prequalify contractors more	1
Policies	
-Inflexible rules	2
-Lack of authority at ROICC office	1
-Over involved in construction process	1
-Certificates of compliance are overused for submittals	1
People	
-Low quality - inexperienced	2
-Adversarial behavior	2
-Timeliness in processing everything	3
Contract Documents	
-Low quality	3
-Non standard	1
Other Comments	
-Too much paperwork	2
-Government estimates are always too low	1

Table 11.- Responses to: "In what ways would you compliment NAVFAC?"

Responses from 26 contractors	Number of responses
People:	
-Fairness	6
-Honesty	2
-Quality, experience, ability	6
Payment Policy	
-Fast, fair, works well	5
NAVFAC Organization	
-On-site ROICC management	2
-Know what they are doing	1
-Professionalism	1
-Willing to learn from AGC	1
-Contractors have access to decision makers	1
Submittal Format	1

Table 12.- Responses to: "Do you have any suggestions on how NAVFAC can improve ?"

Responses from 17 contractors	Number of responses
Contract Management	
-Try partnering	6
-More decision authority at local ROICC office	4
-Keep design engineers (A&E's) involved during construction	3
-Civilians rather than military should be in charge	1
Alternative Method of Awarding Contracts	
-Award to 2nd low bidder	2
-Award to the average bid (low of cluster)	2
-Try army's evaluative total cost method	1
Alternative Contract Type	
-Turnkey (design build)	2
-More RFP's	2
-Less RFP's	1
Design, Plans & Specifications	
-Need to be more current and use locally available material and equipment	3
-Quit referencing military specifications	1
-Specifications should be job specific, not so general	1
-Hire experienced contractors for constructability reviews of A&E's designs.	1
Preaward Policy	
-Use more restrictive contractor prequalifications	4
-Use incentives/penalties in addition to liquidated damages	1
-Time contract awards with more awareness of the weather	1
-Allow faxed bids	1
-Reduce bid shopping by requiring prime contractors to list their subcontractors with their bid	1
-Reimburse contractors for bid preparation costs if project is cancelled or never awarded.	2

CHAPTER 5 - SUMMARY CONCLUSIONS & RECOMMENDATIONS

5.1 SUMMARY - The findings presented in this research provide a qualitative view of how contractors perceive NAVFAC as an owner. Although most contractors support a contractor quality control program, most believe that NAVFAC's CQC-West specification should be changed. Specifically, the requirement for continuous inspections by inspectors with PE licenses should be discontinued. Contractors believe that an inspector's qualifications should be judged by ability and experience. Inspections should also be performed as necessary before work is covered-up. Contractors also nearly unanimously agree that NAVFAC's value engineering program is ineffectual due to the unnecessarily high level of risk borne by the contractor. It was also found that delaying the award of a contract has several adverse impacts on contractors. A contractor's freedom to bid on other jobs is hindered and their ability to earn a reasonable profit is reduced due to cost increases. Most believe that a contracting agency should not bid a project that it is unable to award in a timely manner. Also, if award delays should occur by some unexpected event, the original low bidder has a right to the job without being damaged by cost increases and restrictions on bidding other work. Contractors are generally satisfied with the people at NAVFAC with whom they interact, and are satisfied with NAVFAC's bidding format, payment policy, and emphasis on safety. Contractors are generally dissatisfied with the bureaucracy that restricts timely actions in settling contract modifications and providing direction on field problems and bid document ambiguities. Contractors are also dissatisfied with NAVFAC's perceived lack

of knowledge of the construction business and smaller contractors are more dissatisfied than larger contractors with the overhead and profit rates allowed on contract modifications, and with NAVFAC's timeliness in responding to contractors urgent needs.

5.2 CONCLUSIONS - The goal of this research was to identify and investigate what NAVFAC contractors believe to be barriers to their ability to construct quality facilities for the Navy, on time and for a fair price. It is reasonable to conclude that NAVFAC's contracting practices most criticized by NAVFAC contractors are in-fact barriers. In the contractors' opinion, NAVFAC's CQC-West specification dramatically increases project costs and may even decrease quality. The ineffectual value engineering program precludes NAVFAC from realizing potential cost savings. NAVFAC's insensitivity to the contracting business, as displayed during the military construction moratorium, angers and alienates contractors thus reducing the number of contractors who choose to bid on NAVFAC jobs. Most importantly, the bureaucratic regulations by which NAVFAC is constrained does not allow them to take timely action and make timely decisions that are essential to a successful and efficient construction project.

5.3 RECOMMENDATIONS - The objectives of the two parties in a construction contract are not in conflict with each other. From the owners perspective, a successful project is one in which the contractor delivers a quality product, on time and for a fair price. Similarly, the contractor desires to build a quality product and stay on schedule in order to earn a reasonable profit. It is in the contractor's best interest to build the project right the first time. Contractors know that rework and warranty service calls can quickly

erode their slim profit margins. Also as the duration of a construction project increases, so do the contractor's overhead costs which in turn cuts profits. Clearly, it is in the best interest of each party of a construction contract to work together to achieve the common goal. NAVFAC can serve themselves best by truly acknowledging this as fact and making real progress towards being partners with contractors rather than being adversaries. The most important part of any relationship is communication. This study is founded on face-to-face, eye-to-eye communication with truly sincere contractors. The following recommendations are based on that which was learned during this communication.

5.3.1 Value Engineering- After construction contracts are awarded, it is almost always too late for value engineering efforts to be successful. NAVFAC's customers need their facility constructed and contractors need to continue working. Quick answers are needed, but hasty answers to value engineering proposals are dangerous. The key to a successful value engineering program is proper timing. The opportune time for value engineering is during project design. This alone is certainly not a revelation, but the following recommendation may be: NAVFAC should contract for "professional services" from experienced, actively working construction contractors to perform value engineering and constructability reviews of project designs. Actively working construction contractors are the single most qualified individuals for identifying substantial cost and time saving design changes on construction projects.

5.3.2 Contractor Quality Control- Part of NAVFAC's objective as defined in chapter 1 is to procure quality facilities. Although NAVFAC expended a great deal of effort developing the contractor quality control program, these efforts were misdirected. A contractor quality control program is not the solution for achieving quality constructed facilities. The barriers which hinder and often prevent NAVFAC from achieving their goal of procuring only quality facilities should have been more clearly defined and these barriers should have been destroyed. This recommendation is best summarized by Mr. Bruce Blake of Stand Incorporated Construction Company who has granted permission to credit him with the following quote:

"The Navy's efforts would be better spent selecting quality contractors rather than trying to legislate morality with their CQC program."

A contractors decision to be committed to constructing a quality facility is a moral decision. The moral (or ethical) contractor is committed to quality. Only an immoral contractor will "cut corners" and try to get away with poor quality construction. Just as any private owner already knows, it is best to do business only with good people. NAVFAC should launch an assault on the inefficient bureaucratic FAR regulations which force the government to do business with poorly qualified and unethical contractors. NAVFAC should do business only with the contractors who are committed to constructing a total quality product.

5.3.3 Change in Attitude- NAVFAC's actions during the military construction moratorium are inexcusable. No contracting agency should abuse contractors the way NAVFAC did. Sadly though, the procurement specialists who are responsible for these actions were likely unaware and insensitive to the effects of their actions. A far reaching attitude change is greatly needed for much of the NAVFAC organization. Contractors should be viewed as essential partners by NAVFAC rather than as "unwanted bedfellows". The adversarial attitudes towards contractors need to be eliminated. NAVFAC should acknowledge that they share a common goal with contractors to build quality facilities, on time, and for a fair price. All levels of the NAVFAC organization should stay focused on achieving this goal.

5.3.4 Future Research- The greatest shortcoming of this research is that it does not necessarily identify how important the several different characteristics of an owner are to contractors. Contractors may be very dissatisfied with certain characteristics of NAVFAC contracts, but if those characteristics are relatively unimportant to contractors, then NAVFAC's efforts to improve should be made elsewhere. For example, it would undoubtedly be more important to contractors for NAVFAC to reduce the number of errors in contract documents than it would be for NAVFAC to simplify the form on which contractors submit their bids. A two step research effort is recommended. First, NAVFAC contractors should be surveyed to determine which owner characteristics are most important to them. This can be done by listing several owner characteristics and asking contractors to rate the relative importance of each characteristic. The most

important characteristics could be determined using a point scale in much the same way as college football teams are ranked by the associated press. The second step of the research effort is to survey contractors to determine their level of satisfaction with NAVFAC on these "most important" owner characteristics. NAVFAC can then focus their efforts on eliminating contractors' dissatisfaction with these most important characteristics.

Contractor survey results

Question	Average	61 to 100%	LANTDIV	NORTHDIV	SOUTHDIV	WESTDIV	PACDIV
1 Quality of Contract documents	3.16	3.15	3.36	2.92	3.15	3.18	3.25
2 Suff. time allowed in documents for const.	3.28	3.05	3.43	3.08	3.31	3.45	3.13
3 Time allowed for bidding	3.69	3.45	3.93	3.54	3.62	3.64	3.75
4 Ability to get documents during bidding	3.26	2.75	3.14	3.38	2.96	3.64	3.25
5 Response to inquiries during bidding	2.62	2.40	2.71	2.15	2.62	2.64	3.25
6 Staggering bid openings to avoid confusion	3.18	3.05	3.00	3.00	3.38	3.36	3.29
7 Preaward verifications of low bidders	3.54	3.65	3.71	3.31	3.67	3.27	3.86
8 Preconstruction Conferences	3.52	3.65	3.71	3.31	3.31	3.73	3.63
9 Contractor Quality Control	2.98	2.95	3.07	2.38	3.08	3.27	3.25
10 Navy Inspection	2.98	2.90	3.21	2.61	2.76	3.27	3.12
11 Competence/experience of Navy Inspector	2.84	2.65	2.93	2.54	2.62	3.36	2.88
12 Submittal reviews/approvals	2.64	2.60	2.86	2.62	2.31	2.64	2.88
13 Value Engineering Program	2.57	2.56	2.54	2.83	2.23	2.80	2.50
14 Consistency of admin between ROICC offices	2.62	2.45	2.43	2.54	2.54	2.64	3.29
15 Safety compliance	3.55	3.65	3.79	3.46	3.38	3.64	3.50
16 Compliance to contract requirements	3.35	3.30	3.64	3.08	3.23	3.45	3.38
17 Processing Invoices	3.54	3.55	3.36	3.23	4.00	3.73	3.38
18 Accepting/Inspection of HVAC systems	2.83	2.79	2.21	3.00	3.08	3.44	2.57
19 Accepting/Inspection of roofing work	3.08	3.21	3.29	3.00	3.08	3.44	2.50
20 FAR regs on Buy American, IBOP, US Flag	2.96	3.05	3.00	2.61	3.07	3.18	3.00
21 Coordinating utility outages	3.22	3.25	3.29	3.00	3.54	3.09	3.13
22 Timely responses to field problems	2.59	2.75	2.50	2.54	2.69	2.73	2.50
23 Timely issue of formal mods for invoicing	2.24	1.95	1.93	2.00	2.46	2.27	2.86
24 Negotiations of changes	2.27	2.30	2.14	2.15	2.38	2.45	2.25
25 Competence/experience of military AROICCs	2.81	2.75	2.64	2.62	2.54	3.55	2.88
26 Competence/experience of civilian AROICCs	2.89	2.95	3.14	2.54	2.85	3.18	2.75
27 Role of ROICC as a mediator during disputes	2.66	2.40	2.71	2.46	2.54	2.91	2.75
28 Contracting Officer's Decision process	2.50	2.45	2.50	2.23	2.23	3.09	2.63
29 Access of CO/EPD top mgt during disputes	2.67	2.60	2.64	2.38	2.69	3.09	2.63
30 Freedom of Information inquiries	3.18	3.16	3.42	3.08	3.23	3.22	2.86
31 Quality/workmanship of final product	3.53	3.65	3.79	3.25	3.62	3.64	3.25
32 Preliminary inspections	3.22	3.20	3.43	3.00	2.92	3.55	3.25
33 Final acceptance	3.06	3.05	3.43	2.77	2.62	3.45	3.13
34 Contract closeout	2.93	2.65	3.00	2.62	2.77	3.36	3.00
35 Warranty work	3.15	3.30	3.21	3.08	3.31	3.09	3.00
36 Contractor evaluations by ROICCs	2.98	3.00	3.15	2.42	2.85	3.36	3.29
37 Recognition of outstanding work	2.96	2.75	3.07	3.00	2.77	3.00	3.00
Average score for 37 Questions	3.00	2.95	3.06	2.80	2.96	3.21	3.05

Company Name	Person(s) Interviewed
F.R. Bourgault	Greg Smith
General Construction Co.	Eric F. Reichelt, Project Engineer
Pacific Components Inc.	Donald L. Mar, Vice President
Eberharter Construction	Gerald F. Buettner, Executive V.P.
Lehtinen Construction	Mr. Lehtinen
MJ Takisaki, Inc.	Mark J. Takisaki, President
McAbee Construction Company Inc.	J. Herbert McAbee, President
F2M Inc.	Jim Frisby, Project Management
Cree Construction Company Inc.	William J. Cree, President
Ferrell-Penning Inc.	Gene Coronetz
E.M. Castillo Construction, Inc.	Edward M. Castillo, President
Arango Construction Company	Jack Arango
Caicos Corporation	John Hisey
Drury Construction Company, Inc.	Don Drury Martin S. Sievertson, Project Mgr.
Kelly-Ryan, Inc.	Jack Howard, General Manager
Lugo Construction, Inc.	Adrian C. Lugo, President
Pease & Sons, Inc.	Darron C. Pease, Project Mgr.
Deeny Construction Co., Inc.	Terry Deeny
Aleutian Constructors J.V.	John F. Viger
Metcalf-Grimm Mechanical Contractors, Inc.	Robert Grimm, President Dave Urwin, Vice-President
Hooper Electric	T.J. Porter, Chief Estimator
The Vemo Company	Arne Vemo, President
Strand Incorporated G.C.	Bruce L. Blake, Senior Project Mgr.
Global Diving & Salvage, Inc.	Tim M. Beaver, President
Sound Mechanical, Inc.	Barth Fowler, Chief Estimator
Norse Inc. General Contractor	David McLaughlin, General Mgr.
Fischbach and Moore, Inc.	Donald G. Jensen Bruce W. Yarber
Donald Owen & Associates, Inc.	Donald Owen
Quantum Construction, Inc.	Daniel H. Folkers Beth A. Folkers
Construction & Rigging, Inc.	Anthony Barracca, Div. Engineer
Long Painting Company	John Fisher, Manager Maurice Greb, Estimator

BACKGROUND INFORMATION

1.1 Contractor Company name: _____

1.2 Years in business? _____ 1.3 Annual construction volume: \$ _____

1.4 Name of Interviewee: _____

1.5 Type of construction:

____ Building ____ Highway/Heavy ____ Mechanical ____ Industrial
____ Electrical ____ Utility ____ Other _____

1.6 What is the percentage breakdown of your work by type of owner?

____ % Federal ____ % State ____ % Municipal ____ % County
____ % Private/Business ____ % Private/Individual

1.7 Approximately how many Navy contracts have you worked on either as a Prime contractor or as a Subcontractor in the past two years? _____

Combined dollar volume? _____

1.8 Approximately how many construction contracts with other Federal agencies have you worked on in the past two years? _____

Combined dollar volume? _____

1.9 With which other Federal agencies do you contract?

____ Army; ____ Coast Guard; ____ FAA; ____ Fed. Hwys
____ Bureau Rec. ____ VA; ____ GSA; ____ Forestry; ____ Other

1.10 What % of your work is as a Prime Contractor _____ %

1.11 What % of your contracts are:

____ % Lump Sum; ____ % Unit price; ____ % Cost plus

1.12 What % of your work is negotiated? _____ %

1.13 What size of job is typical for your company?

\$ _____ to \$ _____

2.1 How would you feel if, in order to reduce bid shopping, the Navy required Prime Contractors to submit a list of their Subcontractors with the bid?

Strongly opposed 1 : 2 : 3 : 4 : 5 Strongly in favor

2.2 How would you feel if the Navy started procuring more construction work using restricted bidders lists? (restricted to those who have performed well in the past)

Strongly opposed 1 : 2 : 3 : 4 : 5 Strongly in favor

2.3 How would you feel if the Navy started negotiating more construction contracts much the same as many private owners do?

Strongly opposed 1 : 2 : 3 : 4 : 5 Strongly in favor

2.4 How would you feel if the Navy experimented with awarding contracts by some method other than to the lowest responsive responsible bidder?

Strongly opposed 1 : 2 : 3 : 4 : 5 Strongly in favor

2.5 Is the amount of your bid affected in any significant amount due to anticipated problems with specific persons at an area OICC/ROICC office?

No never 1 : 2 : 3 : 4 : 5 Yes always

2.6 Please comment on the time the Navy allows for you to prepare your bid price

Too short 1 : 2 : 3 : 4 : 5 Too Long

2.7 How do you view the Navy's standard 60 day bid acceptance period?

Too short 1 : 2 : 3 : 4 : 5 Too Long

2.8 Does the Navy provide adequate time to complete a Contract?

normally NO 1 : 2 : 3 : 4 : 5 normally YES

QUALITY CONTROL / QUALITY ASSURANCE

3.1 Have you worked on a Navy contract with a CQC-West specification?

Yes ____ : No ____

3.2 Do you feel that the CQC specification clearly identified contract quality control requirements?

Definitely Yes 1 : 2 : 3 : 4 : 5 Definitely No

3.3 Are you able to accurately bid the costs involved with complying with the CQC specification?

Definitely Yes 1 : 2 : 3 : 4 : 5 Definitely No

3.4 How would you describe the degree to which the Navy representatives interpreted and enforced the CQC specification?

Much too strictly 1 : 2 : 3 : 4 : 5 Not as strictly as expected

3.5 Do you feel the CQC specification needs to be changed? If so, in what way? _____

4.1 Have you worked on a Navy Contract which required a CPM network based construction schedule? _____Yes _____No

4.2 Which type of construction schedule do you normally submit as required by Navy contract?
_____CPM Network; _____Bar chart; _____Other_____

4.3 What type of construction schedule do you use for day to day or week to week progress updates for your internal use?
_____CPM Network; _____Bar chart; _____Other_____

4.4 How would you feel if the Navy required a CPM schedule for all contracts no matter how large or small?

Strongly opposed 1 : 2 : 3 : 4 : 5 Strongly in favor

Why?

5.1 Are you familiar with U.S. Army Corps of Engineers Safety and Health Requirements Manual with which Contractors are required to comply while working on Navy construction contracts? _____Yes _____No

5.2 How would you describe (rate) your (or your Superintendents') familiarity with the requirements in the Army safety manual?

Very familiar 1 : 2 : 3 : 4 : 5 Not at all familiar

5.3 How would you describe (rate) your (or your Superintendents') familiarity with OSHA'S safety requirements?

Very familiar 1 : 2 : 3 : 4 : 5 Not at all familiar

5.4 How would you describe the degree of emphasis that the Navy puts on safety on your job sites?

Much too strict 1 : 2 : 3 : 4 : 5 Not as strict as you expected

5.5 How would you feel if the Navy dropped the requirement for Contractors to follow the Army Safety Manual and adopted only OSHA'S safety requirements?

Strongly opposed 1 : 2 : 3 : 4 : 5 Strongly in favor

5.6 Would you comment on how the two documents compare? Is there a need for them both?

VALUE ENGINEERING

6.1 Are you familiar with the Value Engineering - Construction clause in Navy contracts?

_____Yes _____No

6.2 Have you ever submitted a formal value engineering change proposal to the Navy Contracting Officer on any of your Navy contracts?

_____Yes _____No

6.3 Was the proposal adopted and incorporated into the Contract?

_____Yes _____No

6.4 Please comment on the Navy's Value Engineering change procedure:

7.1 With which of the following methods of dispute resolution do you have experience?

- ☐ Contracting Officer's final decision / ASBCA Litigation
- ☐ Arbitration
- ☐ Mediation
- ☐ Disputes Review Board
- ☐ Mini Trials
- ☐ other: _____

7.2 Which method of dispute resolution do you prefer?

- ☐ Contracting Officer's final decision / ASBCA Litigation
- ☐ Arbitration
- ☐ Mediation
- ☐ Disputes Review Board
- ☐ Mini Trials
- ☐ Negotiation with local office to solve disputes
- ☐ other: _____

7.3 How many "Disputes" have you had with the Navy in the past year? _____

8.1 Has the Navy ever asked you to extend the original bid acceptance period to allow them more time to award a contract? _____ Yes _____ No

8.2 On how many jobs were you the:

_____ Low bidder	What total dollar volume? \$ _____
_____ 2 nd Low	What total dollar volume? \$ _____
_____ 3 rd or higher	What total dollar volume? \$ _____

8.3 On how many jobs did you not extend the bid acceptance period? _____

8.4 What are some reasons? _____ Cost increased too much
_____ Couldn't bid on other jobs
_____ Other reasons: _____

8.5 How many jobs were you finally awarded after a delay, and how long did you have to extend the bid acceptance period?

8.6 How should the Navy handle award delays? (assume that bids have been opened publicly and the original bid acceptance period has expired)

_____ Keep extending bid acceptance period until contract can be awarded with no adjustment in price.

_____ Keep extending bid acceptance period with a fixed % increase in price for each 30 days past original acceptance period.

_____ Allow contractors out of commitment so to not tie up bonding capacity and then when an award is authorized, ask who among the original contractors wants back in for:

_____ original price
_____ escalated price by fixed % per month
_____ best and final offer

9.1 What letter grade (A : B : C : D : F) would you give the Navy Contracting Office on your most recent few contracts on the following subjects:

A = exceptional B = good C = Ave D = Below average F = Unacceptable

TIMELINESS :

Responding to your letters/correspondence. _____
 Responding to your "Requests for Information". _____
 Reviewing and approving/disapproving submittals. _____
 Reviewing and approving/disapproving construction schedule. _____
 Reviewing and approving/disapproving schedule of prices. _____

FAIRNESS AND REASONABLENESS

Interpreting ambiguities in the contract. _____
 Negotiating contract modifications (change orders) _____
 Amount allowed for progress payments. _____
 Accepting work as complying with contract. _____

YOUR PERCEPTION OF THEIR:

_____Honesty; _____Use of common sense;
 _____Decision making ability
 _____Sense of Urgency _____Cooperation w/Contractor

9.2 In your opinion, is there a significant difference between any two OICC/ROICC offices in how you would assign the above letter grades?

Yes ____ No ____

9.3 What are some important characteristics that describe a good Federal construction contracting agency? _____

9.4 Of all the Federal agencies with which you contract, which, if any, do you prefer and why? Who? _____Why? _____

9.5 Do you know of anything innovative or creative that the Navy could do to improve the way they contract for construction work?

9.6 What is your biggest complaint about contracting for construction work with the Navy? _____

9.7 In what ways would you compliment the Navy on how they manage construction contracts? _____

BACKGROUND INFORMATION

1. Contractor Company name: _____ Location: _____

2. Years in business? _____ Annual construction volume: \$ _____

3. Name of Interviewee: _____ Position in Company? _____

4. Type of construction:

_____ Building _____ Highway/Heavy _____ Mechanical _____ Utility
 _____ Electrical _____ Rehab/remodel _____ Industrial _____ Other

5. What is the percentage breakdown of your work by type of owner?
 _____ % Federal _____ % State _____ % Municipal _____ % Private

6. What are a few of your most recent Navy contracts?

Describe the job?	Where?	When?	Total Cost?

7. With which other Federal agencies do you normally bid for construction work?

_____ Army; _____ FAA; _____ Bureau Rec.; _____ Coast Guard
 _____ VA; _____ GSA; _____ Forestry; _____ Air Force;

8. What are a few of your most recent contracts with **other** Federal agencies?

Describe the job?	Where?	When?	Total Cost?

9. What % of your companies work is as a Prime Contractor? _____ %

10. What % of your contracts are: _____ % Lump Sum; _____ % Unit price;

11. What % of your work is competitively bid? _____ %

12. What is a typical job size that your company bids on? \$ _____

CONTRACTOR QUALITY CONTROL SYSTEM (CQC-WEST)

1. About how many Navy contracts with the CQC-west specification have you bid on? _____
2. Of those, how many were awarded to your company? _____
3. In theory, do you support the principal of putting the burden of quality control inspection on the Contractor rather than on Government inspectors?
 Yes No Comment: _____

4. Is P.E. registration an appropriate criteria by which CQC specialized inspectors qualifications should be judged? _____

5. What do you think of the requirement for specialized inspection personnel to be "on-site" whenever work or testing is being performed? _____

6. Have you found that the requirements of the CQC West specification is not being enforced equally from one Contractor to the next Yes No
 Comment: _____

7. What effects does the CQC specification have on the submittal process?

8. Is it difficult to find and keep quality personnel who are qualified for the CQC staff? Yes No Comment: _____

9. Does the Navy's CQC program need to be changed to make it a more efficient use of taxpayer money and still ensure effective quality control?
 Yes No If so, in what way? _____

1. Are you familiar with the Value Engineering - Construction clause in Navy contracts?

_____ Yes _____ No

2. About how many VECP's have you submitted to Silverdale or San Bruno in accordance with formal procedures? _____

3. Of those, about how many were formally adopted? _____

4. About how much \$ Money did those proposals that were adopted save the Government? \$ _____

5. Regardless of whether you actually ever submit a VECP, what have you found to be a typical "potential" value engineering change on Navy contracts?

_____ equipment _____ fixtures _____ phasing plan
_____ materials _____ design _____

6. What is your general opinion of how the Navy's Value engineering program? _____

7. Are the other Federal agencies with whom you have worked significantly different from the Navy in how they handle VECP's? Yes No

In what way? _____

8. Do you have any additional comments about the Navy's value engineering change procedure? _____

1. Has the Navy ever asked you to extend the original bid acceptance period to allow them more time to award a contract? ☐ Yes ☐ No

2. Please describe what happened on a few of the jobs which you were asked to extend the bid acceptance period.

Short description of job?			
Original position of your bid?			
Where was the job?			
How much did you bid?	\$	\$	\$
Length of extension asked for?			
How long did you extend?			
Was it awarded to you?			

3. If you were responsible for deciding how the Navy should handle award delays, which method would you choose? (assume that bids have been opened publicly and the original bid acceptance period has expired)

☐ Ask Contractors to keep extending the bid acceptance period until the contract can be awarded with no adjustment in price.

☐ Include an escalation clause in every advertisement which increases the bid price a fixed % for each 30 days past original acceptance period.

☐ Allow contractors out of commitment so to not tie up bonding capacity and then when an award is authorized, ask the original contractors "Who wants back in for:"

☐ original price

☐ escalated price by fixed % per month

☐ best and final offer

☐ Completely rebid the job when an award is authorized.

☐ Negotiate with the original low bidder.

4. Should the escalation % change depending on contract size? Yes No

ESCALATION AMOUNT PER 30 DAYS

contract size \ esc. %	\$ 100K	\$ 500K	\$ 1.0 M	\$ 5.0 M	\$ 10 M
.10%	\$ 100	\$ 500	\$ 1,000	\$ 5,000	\$ 10,000
.25%	\$ 250	\$ 1,250	\$ 2,500	\$ 12,500	\$ 25,000
.50%	\$ 500	\$ 2,500	\$ 5,000	\$ 25,000	\$ 50,000
.75%	\$ 750	\$ 3,750	\$ 7,500	\$ 37,500	\$ 75,000
1.0%	\$ 1,000	\$ 5,000	\$ 10,000	\$ 50,000	\$ 100,000

OVERALL SATISFACTION

Please rate your overall satisfaction with the Navy contracting agency. (leave blank if no opinion)	Very Sat.	Sat.	Neutral	Dis-Sat.	Very Dis-Sat.
1. Quality and completeness of plans & specifications	()	()	()	()	()
2. Response to Contractors' questions prior to bid opening.	()	()	()	()	()
3. Bidding format (i.e. lump sum, unit price, alternates)	()	()	()	()	()
4. The Navy's review and response to your construction schedule.	()	()	()	()	()
5. The Navy's review and response to your schedule of prices.	()	()	()	()	()
6. Timeliness in review of your submittals.	()	()	()	()	()
7. Timeliness in responding to urgent requests for information (RFI's).	()	()	()	()	()
8. Amount allowed for progress payments.	()	()	()	()	()
9. Timeliness in settling contract modifications (change orders) and giving Contractor a notice to proceed.	()	()	()	()	()
10. Fair and reasonableness in interpreting contract ambiguities.	()	()	()	()	()
11. Amount allowed for OH & profit rates on contract modifications (change orders).	()	()	()	()	()
12. Acceptance of Contractor's work for final inspection.	()	()	()	()	()
13. Attitude towards and cooperation with Contractors.	()	()	()	()	()
14. Sense of urgency.	()	()	()	()	()
15. Use of common sense.	()	()	()	()	()
16. Knowledge of the construction business	()	()	()	()	()
17. Ability to make a timely decision	()	()	()	()	()
18. Emphasis on safety	()	()	()	()	()
19. Honesty	()	()	()	()	()
20. Consistency between ROICC offices or ROICC personnel within the same office.	()	()	()	()	()
21. Contract close-out	()	()	()	()	()

1. Of all the Federal agencies with whom you contract, who do you prefer?
Who? _____ Why? _____

2. Do you know of anything **innovative** or **creative** that the Navy should do to improve the way they manage construction contracts? _____

3. What is your biggest **complaint** about contracting with the Navy?

4. In what ways would you **compliment** the Navy? Is there anything in particular that they do better than the rest?

(c) VECP preparation. As a minimum, the Contractor shall include in each VECP the information described in subparagraphs (1) through (7) below. If the proposed change is affected by contractually required configuration management or similar procedures, the instructions in those procedures relating to format, identification, and priority assignment shall govern VECP preparation. The VECP shall include the following:

(1) A description of the difference between the existing contract requirement and that proposed, the comparative advantages and disadvantages of each, a justification when an item's function or characteristics are being altered, and the effect of the change on the end item's performance.

(2) A list and analysis of the contract requirements that must be changed if the VECP is accepted, including any suggested specification revisions.

(3) A separate, detailed cost estimate for (i) the affected portions of the existing contract requirement and (ii) the VECP. The cost reduction associated with the VECP shall take into account the Contractor's allowable development and implementation costs, including any amount attributable to subcontracts under paragraph (h) below.

(4) A description and estimate of costs the Government may incur in implementing the VECP, such as test and evaluation and operating and support costs.

(5) A prediction of any effects the proposed change would have on collateral costs to the agency.

(6) A statement of the time by which a contract modification accepting the VECP must be issued in order to achieve the maximum cost reduction, noting any effect on the contract completion time or delivery schedule.

(7) Identification of any previous submissions of the VECP, including the dates submitted, the agencies and contract numbers involved, and previous Government actions, if known.

(d) Submission. The Contractor shall submit VECP's to the Resident Engineer at the worksite, with a copy to the Contracting Officer.

(e) Government action. (1) The Contracting Officer shall notify the Contractor of the status of the VECP within 45 calendar days after the contracting office receives it. If additional time is required, the Contracting Officer shall notify the Contractor within the 45-day period and provide the reason for the delay and the expected date of the decision. The Government will process VECP's expeditiously; however, it shall not be liable for any delay in acting upon a VECP.

(2) If the VECP is not accepted, the Contracting Officer shall notify the Contractor in writing, explaining the reasons for rejection. The Contractor may withdraw any VECP, in whole or in part, at any time before it is accepted by the Government. The Contracting Officer may require that the Contractor provide written notification before undertaking significant expenditures for VECP effort.

(3) Any VECP may be accepted, in whole or in part, by the Contracting Officer's award of a modification to this contract citing this clause. The Contracting Officer may accept the VECP, even though an agreement on price reduction has not been reached, by issuing the Contractor a notice to proceed with the change. Until a notice to proceed is issued or a contract modification applies a VECP to this contract, the Contractor shall perform in accordance with the existing contract. The Contracting Officer's decision to accept or reject all or part of any VECP shall be final and not subject to the Disputes clause or otherwise subject to litigation under the Contract Disputes Act of 1978 (41 U.S.C. 601-613).

1. NAVFAC - Naval Facilities Engineering Command
2. FAR - Federal Acquisition Regulations
3. ROICC - Resident Officer in Charge of Construction
4. CEC - Civil Engineer Corps, U.S. Navy

Thesis
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c.1 Identifying problems
encountered when contract-
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